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Cleanings in Bee Culture



A Rustic Russian Apiary in the Caucasus.

Published by The A. I. Root Co., Medina, Ohio, U. S. A.

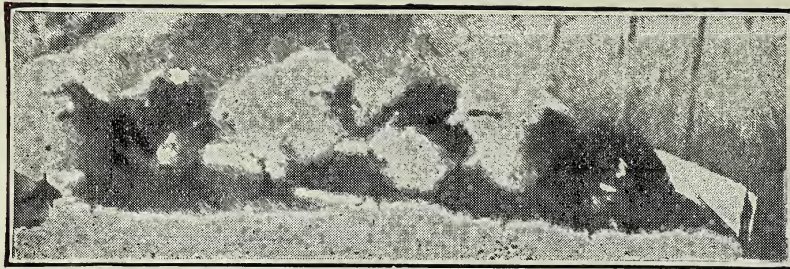
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Vol. XXXVI

May 15, 1908

No. 10



ARE THEY WORTH SAVING?

Mr. Haviland Saves 28 Chicks in One Hatch.

Fully one-third of all the chickens ready to hatch die in the shell. After 30 years' study and practice we have discovered a simple way to save every chick that is fully developed and ready to hatch, whether the egg is pipped or not. This, we believe, is one of the lost arts of the ancient Egyptians. It takes but a minute to save a chick, and no skill required. Note Mr. Haviland's success:

Dear Sirs:—

Brookville, Md., Feb. 27, 1908.

I received my copy of the Philo System at noon, the last

hour of the 21st day for my incubator, containing 172 fertile eggs. About 100 were out of the shell and about 30 of the remainder were still alive, some pipped. According to directions with our hot-air machine these were worthless. We immediately proceeded according to "A Trick of the Trade" in your book and hatched them all, even one that showed signs of life after laying in a garbage-pail for some time. We still have 128 chicks three days old; lost but two. Many of the eggs were three or four weeks old when set.

Respectfully,

E. W. HAVILAND.

\$200 IN SIX MONTHS FROM 20 HENS

To the average poultryman that would seem impossible, and when we tell you that we have actually done a \$500.00 poultry business with 20 hens on a corner in the city garden, 30 feet wide by 40 feet long, we are simply stating facts. It would not be possible to get such returns by any of the systems of poultry-keeping recommended and practiced by the American people, still it is an easy matter when the new PHILO SYSTEM is adopted.

The Philo System is Unlike all other Ways of Keeping Poultry

and in many respects is just the reverse, accomplishing things in poultry work that have always been considered impossible, and getting unheard-of results that are hard to believe without seeing; however, the facts remain the same and we can prove to you every word of the above statement.

The New System Covers all Branches of the Work Necessary for Success

from selecting the breeders to marketing the product. It tells how to get eggs that will hatch, how to hatch nearly every egg, and how to raise nearly all the chicks hatched. It gives complete plans in detail how to make every thing necessary to run the business, and at less than half the cost required to handle the poultry business in any other manner. There is nothing complicated about the work, and any man or woman that can handle a saw and hammer can do the work.

Two-pound Broilers in Eight Weeks

are raised in a space of less than a square foot to the broiler without any loss, and the broilers are of the very best quality, bringing here three cents per pound above the highest market price.

Our Six Months' Old Pullets are Laying at the Rate of 24 Eggs Each Per Month

in a space of two square feet for each. No green cut bone of any description is fed, and the food used is inexpensive as compared with food others are using.

Our new book, the Philo System of Progressive Poultry Keeping, gives full particulars regarding these wonderful discoveries with simple, easy-to-understand directions that

are right to the point, and 15 pages of illustrations showing all branches of the work from start to finish.

Our New Brooder Saves Two Cents on Each Chicken

No lamp required. No danger of chilling, overheating, or burning up the chickens as with brooders using lamps or any kind of fire. They also keep all lice off the chickens automatically, or kill any that may be on when placed in the brooder. Our book gives full plans and the right to make and use them. One can be easily made in an hour at a cost of 25 to 50 cents.

Dear Sir:—

River Falls, Wis., March 16, 1908.

I am well pleased with your system in poultry-keeping. We have more than doubled our egg production.

Yours truly,

J. C. THAYER.

Gentlemen:—

Ligonier, Ind., Jan. 24, 1908.

Some time ago I ordered your book, Philo System, and your paper. Want to say I am highly pleased with them. Never in my life have I received so much for so little money. It is a very comprehensive treatise indeed. Your methods are so simple that a child might follow them.

Yours truly,

J. BERT MCCONNELL.

Gentlemen:—

R. F. D. 1, Melrose Park, Ill.

Your publication, the Philo System, at hand, and after careful comparison, must say that without doubt or hesitation that more boiled-down, good common sense and natural facts and instruction are condensed in the pages of your book than in all I have tried (to learn) and read the date.

Yours with best wishes, GEO. A. WOLFE.

Dear Sir:—

Cincinnati, O., March 3, 1908.

Your book came to hand and I must say I am very much pleased with it. It is far the best book I have seen on poultry. The ideas set forth in the book, which are the results of your experimenting, certainly show that you are a little in advance of others in this work.

Common Era, Ill., March 19, 1908.

I have built several of the brooders as described by Mr. Philo, and at present time have young chicks, a week old, outdoors, healthy and strong, without being warmed by any artificial heat. Yours respectfully, WILSON BROOKS.

SPECIAL INTRODUCTION OFFER. We will send the book and right to use all patents and one year's subscription to Poultry Review for \$1.00.

POULTRY REVIEW, 23 Third Street, ELMIRA, NEW YORK.

**OUR
GRAND 1908
OFFER**

**NEW
LUMBER**

**FIFTY MILLION FEET
AT REDUCED
PRICES**

Bought at Forced Sales from Manufacturers. It makes
us Headquarters for Thousands of Genuine Bargains
in Lumber and Building Supplies. We save you money.

**BIG
SPECIAL
SALE**

SAVE 30 TO 60 PER CENT. BUY DIRECT. BUILDING SUPPLIES OF EVERY KIND

The Chicago House Wrecking Co. Purchased at forced sales, 50,000,000 feet of new lumber. We are making special concessions to those who buy at once. Our prices today are far lower than prices have been for years. Order now for immediate or future use. Quick action will save you big profits. Remember prices elsewhere which are even now high, are bound to rise. We can quote you 30 to 60 per cent better prices for the same lumber than your local dealer. We guarantee every carload to be exactly as represented. Closest inspection of our lumber stock invited.

Call at our warehouse and yards at Chicago and see the lumber we are offering and you will recognize that it is all we say of it. Make your own selection and see it loaded. It is not necessary to come to Chicago, however, unless you wish to. We can fill your order by mail with just what you want and guarantee you absolute satisfaction. Ours is the largest direct to the

consumer lumber headquarters in the world. We sell millions of feet annually. Orders filled from every part of the United States. No matter where you live you can save money by supplying your building wants here.

We do not figure fancy prices, but quote figures that command your patronage. Whether your order is large or small we can save you money on it. Our tremendous business of millions of dollars annually is your best guarantee of complete satisfaction of every purchase made from us. In our enormous stock of new lumber of every kind we have just what you need for every purpose. Don't buy a stick of material until you get our prices. We offer you everything in the lumber and building supply line needed for residences, farm homes, stores, churches, barns, outbuildings of every kind, sidewalks and fencing. In short any kind of a structure requiring lumber, at from 30 to 60 per cent less than your local dealers or lumber yards ask for it.

IMPORTANT! Send Us Your Lumber Bill For Our Estimate

Make up a list of what you need. Send it to us for our price. If you are putting up a building of any kind whatsoever let us figure with you. Our prices talk louder than words. Have your carpenter or contractor send us your list of what is needed if he has charge of your building. Don't pay exorbitant prices to the lumber trust with their long line of lumber yards all over the country. Don't let the local dealer soak you with his heavy profit. Remember: Chicago House Wrecking Company buys millions of feet of lumber under circumstances of forced sales which means sacrificed prices and enables us to sell even as low as cost without loss. You take no chances in dealing with the Chicago House Wrecking Company. Whether for \$1 or \$10,000 your order will be filled carefully. Our lumber and supplies are guaranteed exactly as represented. If you have no need for a whole carload yourself get your neighbors to club in with you. By buying a carload you can save all kinds of money on freight charges.

We have railroad trains running through our main warehouses and buildings and can load a car to good advantage to you. You can include in this same car, pipe, plumbing material, roofing, wire, fencing, furniture, hardware and merchandise of every kind.

We also furnish you building and barn plans absolutely free upon request. Write us for any information or advice you want and we will have our staff of architects answer every inquiry promptly. Our free book of plans is sent if you mention this paper. We simplify your building proposition.

Our business demands quick action. We must keep our stocks moving. This means prompt shipment—no annoying delays. Let us help you lay out your plans. We will relieve you of every detail. That is what our Special Builder Service is for. Be sure and send us your lumber bill for our estimate. Feel free to write for anything you want to know along the line of building supplies, furnishings, etc.

**WE PURCHASE
OUR GOODS AT**

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Hundreds of Big Money Saving Bargains for Every Builder. Don't Build Your House, Barn, Store, Corn Crib, Church, Etc., without getting Our Big Lumber Offer. Lowest Prices on Millwork Supplies, Roofing, Water Supply Outfits, Paints, Plumbing Supplies, Hardware, Heating Outfits, Furniture, Carpets, Linoleum, Etc.

DOORS 40c WINDOWS 20c



1,000 good doors, various sizes, secured by us in connection with dismantling operations, most of them with hardware. Prices range from 40c up. Fancy front doors, all designs, \$1.50 up. 10,000 window sash, 20c up, all sizes. Complete line of everything in mill work. All brand new, best quality. Barn sash, 6 sizes, 25c up. Clear sash, 37c up. Clear yellow pine mouldings, 25c per 100 ft. up. Porch columns, 54c up. Stair newels, \$1.78. Stair rail, 10c per ft. Plaster casing, O. G. base, 1 3-4c per ft. Base blocks, 4c each. Quarter round, 25c per 100 ft. Hardwood thresholds, 4c. Porch brackets, 3c. Porch spindles, 4c. We handle everything in the Building Supply Line, including light and heavy hardware. Send us your lumber bill for our estimate. Ask for our new special mill work catalog. It prices everything needed for building purposes. Sent free.



Rubberized - Galvo Roofing

\$1.25 per sq. Easy to put on. Requires no previous experience. Can be put on over shingles without removing them. Weather-proof and fire-proof. We furnish with each order sufficient cement to make the laps and large head nails. Price is per sq. of 108 sq. ft. 1 ply, \$1.25. 2 ply, \$1.40. 3 ply, \$1.75.



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When do you expect to build or improve?.....

What kind of building or buildings?.....

What items in this advertisement interest you the most?.....

Name.....

Town.....County.....

R. F. D. or P. O. Box.....State.....

I saw this advertisement in Gleanings in Bee Culture.

Send me free of all cost your 500-page Catalog. Address

Chicago House Wrecking Co., Chicago

OUR NEW 500-PAGE CATALOG NO. 688 FREE.

This Wonderful Bargain Book is just out and ready to be sent to you at once. It is a book such as every shrewd buyer must have. 500 Pages with thousands of items of the very best merchandise and supplies bought at the Sheriffs' and Receivers' Sales. It will pay you to keep it handy. Its pages contain a full record of what we still have on hand from the wonderful St. Louis World's Fair. Merchandise, Machinery and Supplies, articles for every one. You will find it useful in the home, in the workshop or in the office. Write today. Cut out coupon in corner. Fill in answers to questions. Sign your name and address in full and mail to us. We will send you our Catalog free upon receipt of coupon and answers to questions.

**CHICAGO HOUSE WRECKING COMPANY,
35th and Iron Streets, CHICAGO, ILL.**

Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct, to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

EASTERN GRADING-RULES FOR COMB HONEY.

FANCY.—All sections well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel-stain or otherwise; all the cells sealed except an occasional one, the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

No. 1 WHITE.—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white, and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 1 LIGHT AMBER.—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 2.—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped cells, exclusive of outside row, permitted in this grade; wood to be well cleaned, no section in this grade to weigh less than 2 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 lbs. net per case of 24 sections.

Cases of unseparated honey to average not less than 21 lbs. net per case of 24 sections.

INDIANAPOLIS.—Jobbers are fairly well stocked, but very little honey is being offered by producers. Best grade of extracted honey is in good demand, but comb honey is finding slow sale. Jobbers are offering the following prices, delivered here: No. 1 and fancy comb, 15 to 17; extracted white clover, 8 to 9; amber, in barrels, 6 to 6½. Beeswax, 28 cts. cash or 30 in exchange for merchandise.

May 5.

WALTER S. POWDER,
Indianapolis, Ind.

LIVERPOOL.—The honey market is steady and quiet, but stocks are not large. Fine quality meets with fair demand, but low grades are almost entirely neglected. We quote: Chilean, 4 to 6½; Peruvian, 3½ to 5½; California, 7½ to 9; Jamaican, 4 to 5½; Haiti, 6½ to 6¾. Beeswax is steady—African, 27 to 30; American, 30 to 33; West Indian, 27 to 32; Chilean, 30 to 36; Jamaica, 34 to 35.

April 11.

TAYLOR & CO.,
7 Tithebarn St., Liverpool.

CINCINNATI.—The conditions of the honey market are not satisfactory, as there is no consumptive demand for either comb or extracted honey. Lower prices are no inducement. We must await the revival of business in general, which, no doubt, will be as soon as the weather settles. Quote our fancy water-white honey for table use at from 9 to 10, according to the quantity purchased. Amber extracted honey in barrels brings 5½ to 7, the price depending on the quality and quantity. There is an abundance of beeswax, for which we are paying 30 cts. in cash and 32 in trade for choice yellow, delivered here, free from dirt.

THE FRED W. MUTH CO.,
Cincinnati, O.

April 14.

PHILADELPHIA.—The call for both comb and extracted honey has fallen off considerably in the last two weeks. Quite a few job lots on the market, which parties will sell at almost any reasonable offer. This makes the prices very unsteady. We quote: Fancy white comb honey, 17 to 18; No. 1, 15 to 16; amber, 13 to 14; extracted honey, fancy white, 8 to 9; amber, 6 to 7. We do not handle on commission.

April 24.

WM. A. SELSER,
10 Vine St., Philadelphia, Pa.

BUFFALO.—There has been no change in the price of honey since last quoted. The demand is fair for pure white comb and good No. 1 buckwheat comb. We think that about all in the honey in the market will be cleaned up before the new crop is ready.

May 11.

W. C. TOWNSEND,
Buffalo, N. Y.

ST. LOUIS.—The honey market has not undergone any change since ours of March 20. There is no demand for honey, and the quotations are nominal as follows: Fancy white comb honey, 15 to 16; No. 1 white and amber, 13 to 14; broken and defective, less; extracted white, in cans, nominal at 8½ to 9; amber, 7 to 8; in barrels, 6½ to 7. Granulated extracted honey sells at ½ to 1 ct. per lb. less. Beeswax is firm at 28½ for prime; impure and inferior, less.

April 11.

R. HARTMAN PRODUCE CO.,
St. Louis, Mo.

SAN FRANCISCO.—There is very little movement of honey at present, some grades being closely cleaned up. Prices remain stationary on all offerings. Water-white, comb, 16 to 17; white, 15; water-white, extracted, 8 to 8½; light amber, extracted, 7 to 7½; dark amber and candied, 5½ to 5¾.

Pacific Rural Press, May 2.

KANSAS CITY.—We have nothing to quote in the way of comb honey; but we quote extracted white at 7½. Beeswax, 25 to 27.

May 9.

C. C. CLEMONS & CO.,
Kansas City, Mo.

CHICAGO.—The honey market is without volume—no special change in price of either comb or extracted. Much of the extracted from Utah will be unsold when this year's crop is harvested unless it is sold to bakers. Beeswax is steady at 30.

May 9.

R. A. BURNETT & CO.,
Chicago, Ill.

SCHENECTADY.—We have had a few calls for dark extracted honey from manufacturers, but did not have any stock on hand. Of course, they will not pay fancy prices. Nothing is doing in comb honey.

May 9.

CHAS. MACCULLOCH,
Schenectady, N. Y.

BOSTON.—White comb honey, fancy, 17; No. 1 white comb honey, 16; white extracted honey, 10; light amber, 9; amber, 8.

April 10.

BLAKE-LEE CO.,
134 State St., Boston, Mass.

ST. PAUL.—Receipts are very light; demand moderate and prices steady. The prices below represent those obtained for shipment in small lots: Fancy white-clover comb, new, per lb., 18; fancy California, 24 combs per case, \$4.00; strained, in 60-lb. cans, per lb., 10. W. H. PATTON, Sec. Board of Trade,

April 22.

St. Paul, Minn.

DENVER.—The market on comb honey is slow, and prices are declining. We quote to our trade: No. 1 white, per case of 24 sections, \$3.00; No. 1 light amber, \$2.85; No. 2, \$2.70; extracted, white, 8 to 9; light amber, strained, 6¾ to 7. We pay 25 cts. for clean yellow beeswax delivered here.

April 22.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,
F. RAUCHFUSS, Mgr.

THE ONLY WAY TO GET AS **GOOD** A HIVE AS A

MUTH'S SPECIAL

IS—TO GET **ANOTHER** MUTH'S SPECIAL. 

Have a look at its picture—so you'll know it.



Notice these prices—Same as regular style of Dovetailed hives—and don't let any one pass you a grapefruit substitute when you buy a hive. Buy from us and get the real article. There is *just one* hive that

Makes Good Anywhere and Everywhere; Any Time and Every Time!

This is it—and here are the prices:

	Nailed and painted	Nailed.	In flat.		
	1	1	5	10	25
With starters:					
1-story, 8-frame.....	\$ 1 90	\$ 1 70	\$ 6 50	\$12 00	\$28 25
1-story, 10-frame.....	2 00	1 80	7 50	13 10	30 75
With sections and starters:					
1½-story, 8-frame.....	2 85	2 55	9 75	18 00	42 00
1½-story, 10-frame.....	3 00	2 70	10 50	19 50	45 75
2-story, 8-frame.....	3 80	3 30	13 00	24 00	55 75
2-story, 10-frame.....	4 00	3 50	14 00	26 00	60 75

A regular Dovetailed hive, but gable style of cover (*can't* blow off); rim rabbeted on inside edge of sides; honey-board; reversible and non-warping bottom; all finished like a railroad president's private car. (That's particular work, too!)

It's *worthy* of the name of *MUTH*—and that's sufficient. Better send for our catalog—it's free.

THE FRED W. MUTH COMPANY
51 WALNUT ST. THE BUSY BEE-MEN CINCINNATI, O.

GLEANINGS IN BEE CULTURE

Established
1873.
Circulation
32,000.
72 pages.
Semi-
monthly.

Devoted to Bees, Honey, and Home Interests.

Published by THE A. I. ROOT CO., Medina, Ohio.

J. T. CALVERT, Business Manager.

\$1 per year.
When paid
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2 years, \$1.50.
3 years, \$2.00.
5 years, \$3.00.

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DUNEDIN, NEW ZEALAND. ALLIANCE BOX CO., 24 Castle St. *Per year, postpaid, 6/.*

The Hand System

TO satisfy a number of customers we are now making hives to suit the above system, just as the inventor himself uses them. These are not listed in our regular spring catalog, and are not kept in stock at any of our agencies. All orders will be filled from Medina. If ordered early enough, however, they can be forwarded to any one of our branches for redistribution. If you are going to try a few of these hives the coming season, we earnestly urge you to order early before the rush season comes on.

PRICE LIST OF HAND DIVISIONAL HIVE AND PARTS.

We have had numerous calls for divisional hives just as Mr. Hand uses them. We will not list them in our catalog for the coming season, but will make them up to supply on special order, to those who desire to try them, at prices in table below. The outside dimensions being nearly the same as the regular Dovetailed hive, the regular covers and bottoms may be used.

Each section is 19½ in. long, 5½ in. deep outside; upper portion of side removable with clamps to hold it in place. Sections used are 4¼x4¼x1½ plain, split three sides. Furnished in both eight and ten frame size.

	Designating or Short Name	Nailed and Painted Each	In Flat		
			Each	Five	Weight of 5
Hand brood or extracting section, including the frames, springs, clamps, and nails; no foundation	Hand 8-8	\$ 65	\$ 50	\$ 2 25	35
Hand brood or extracting section, including the frames, springs, clamps, and 1-inch foundation starters	Hand 8-10	70	55	2 50	40
Hand brood or extracting section, including the frames, springs, clamps, and 1-inch foundation starters	Hand 9-8	75	60	2 50	35
Hand brood or extracting section, including the frames, springs, clamps, and full sheets comb foundation	Hand 9-10	80	65	2 75	40
Hand brood or extracting section, including the frames, springs, clamps, and full sheets comb foundation	Hand 0-8	1 30	85	4 00	38
Hand comb-honey section, including section-frames, and fences; no sections or foundation starters	Hand 0-10	1 40	95	4 50	43
Hand comb-honey section, including section-frames, fences, sections, and full sheets foundation	Hand 2-8	75	60	2 75	30
Hand four-section hive including two brood and two comb-honey sections; no sections or foundation starters	Hand 2-10	80	65	3 00	35
Hand four-section hive including two brood and two comb-honey sections with sections and full sheets foundation	Hand 1-8	1 45	1 00	4 75	35
Hand sectional super, no inside fixtures, including clamps, nails, and flat tins	Hand 1-10	1 55	1 10	5 25	40
	HandCE8822-8	3 50	2 65	12 00	180
	HandCE8822-10	3 75	2 90	13 25	190
	HandCE0011-8	6 30	4 25	20 00	200
	HandCE0011-10	6 75	4 70	22 25	210
	Hand Super-8	40	30	1 25	22
	Hand Super-10	43	32	1 35	24

Hand brood-frames, 4¼x17½x1½; ends, 1½x½; top, 1½x¾; bottom, ½x¾ \$2.00 per 100 in flat; \$18.00 per 1000
Hand section-frames, 4¼x17½x1½; ends and top, 1½x¾; bottom, 1½x¾ 2.50 " " 22.00 "
Hand fences, 4¼x17½. P style 1.75 " " 16.00 "

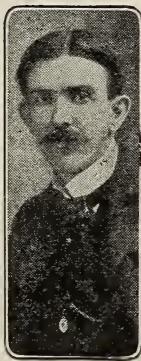
The A. I. Root Company, Medina, Ohio

**"If goods are wanted quick, send to Pouder."
Established 1889.**

Getting at the Root of the Matter.

By the Bee Crank.

The bee goes after the "inside facts" when gathering honey. It knows a good blossom from a poor one. The bee-man who expects to gather in the sweet honey of golden profits must not only go after it, but must learn how to get at its source—to distinguish between the fruitful and the barren method. There is one fundamental idea at the base of a successful bee business—the best equipment is none too good. The root of the whole matter is—use Root's goods. I handle their full line and sell at their prices—no delay, and less freight to pay. Danzenbaker and other standard hives, sections, Hoffman frames, and other requirements, ready to go on next train. Ever try one of those Danzenbaker smokers? Some of my patrons think it excels any other smoker on the market. The foundation that I am



sending out is fresh from the mill, and has that delicious odor, is soft and pliable, and easy for the bees to work. Ever see foundation that looks blue and seems hard and brittle? It is old; and, while the bees accept it and build to it, if you cut a comb of honey built on it you will think it has an oyster-shell in its center. Bees work over fresh foundation so thin that one does not recognize it in a comb of honey. One good patron in California says in a footnote with his order, "I can get goods nearer home, but I prefer to send to you." Many of you will understand just exactly why.

Save up your beeswax for me. I am now paying 28 cents, spot cash, or 30 cents in exchange for supplies, delivered here. I have a constant demand for it.

My catalog is free.

Walter S. Pouder,

513-515 Massachusetts Avenue, Indianapolis, Ind.

GLEANINGS IN BEE CULTURE

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A WONDERFUL BOOK.

Nothing could show to better advantage the extraordinary development of American advertising than N. W. Ayer & Son's (Philadelphia) great Newspaper Annual just published. It has 1348 pages, royal octavo size, in which are sandwiched beautiful colored maps of every State and Territory, and, to an advertiser, it must be worth much more than the selling price, \$5.00. To the ordinary advertiser it must be a perfect mine of information. This knowledge is tabulated in such a way that no time is lost in seeking for the exact point desired. It contains an advertisers' telegraph code to facilitate rapid communication between advertisers and the agents or publishers of newspapers and magazines. To compile such a book every year, and keep all the facts up to date, is certainly a great triumph, for it names 23,726 publications, gives their circulation, and also the statistics of every State, town, and village in the country. It is a monument of patience and perseverance.

TO PURCHASERS OF VEHICLES.

The Elkhart Carriage and Harness Mfg., Co., of Elkhart, Indiana, have been advertising their wares in GLEANINGS for many years, and we have yet to hear one single complaint of their treatment of customers, though they must have sold thousands of dollars' worth of goods to our readers. We think this is about the best testimonial any firm could receive, because if there was any dissatisfaction we would hear of it sooner or later. For more than a third of a century they have been selling vehicles and harness on the mail-order plan. They commenced in a humble way, and now possess an immense factory where they turn out carriages and buggies by the wholesale. In addition they make a large quantity of harness. By means of their fine catalog of 250 pages they convey to the mind of the would-be customer a knowledge of what they have to sell as well as any salesman could, and probably better, for a book can be referred to as often as one chooses to use it; and the pictures and descriptions being truthful and accurate, there is no need to go further. If you wish to see a copy of this handsome catalog, just send a request for it and it will be forthcoming. It is reasonable to suppose that a firm which has no traveling salesmen, agents, jobbers, wholesalers, or retailers can sell cheaper than those who do. In towns and cities storage alone adds greatly to the cost of a vehicle. This can be saved. Please note the address, The Elkhart Carriage and Harness Mfg. Co., Elkhart, Indiana.

4%

Deposit your idle funds here pending permanent investment. The advantages offered are—

Unquestioned safety and 4 percent interest

compounded semi-annually.

Write to-day for booklet
explaining our convenient
banking-by-mail system.

Established 1892 A State Bank
Assets over \$700,000

THE SAVINGS DEPOSIT
BANK COMPANY
MEDINA, OHIO

Lansing, Mich.

Yes, we've moved to the best point in Michigan to reach bee-keepers. We have four great railroad systems and three express companies reaching out in every direction. At a low-cost freight expense we can supply you with

“ROOT QUALITY”

bee-supplies at factory prices. Hives, sections, and foundation ready for immediate shipment in any quantities.

SPECIAL OFFER

GLEANINGS one year, new or renewal, and a good bee-veil with a silk-tulle front for \$1.15. No matter where you live, take advantage of this GLEANINGS offer.

SEND FOR CATALOG.

M. H. Hunt & Son

Lansing Michigan

Opposite P. M. depot.

Extracted Honey Wanted

We are always in the market.

If you have any to sell, mail small average sample to

**NATIONAL
BISCUIT COMPANY**

Purchasing Department,
Washington Blvd. & Morgan St.
CHICAGO, ILL.

HONEY WANTED.

Wanted to contract for 20,000 lbs. comb honey in shallow extracting-frames 5% inches deep.

Requirements: Honey to be produced on full sheets of extra-thin super foundation, in shallow extracting-frames, not wired.

Grade: Same as first three grades in GLEANINGS grading-rules—Fancy, A No. 1, and No. 1 (all included as one grade).

Quality: Honey must be produced from clover, basswood, or raspberry.

Combs must be even and of uniform thickness—not over one inch.

Will furnish frames, shipping-cases, and carriers for re-shipping the honey.

Bee-keepers in Michigan or Ohio interested in this proposition, write, stating approximate number of frames you can furnish, and price wanted for the honey per pound, *net weight*, F. O. B. Medina.

Address

HONEY BUYER,

c-o GLEANINGS IN BEE CULTURE,
Medina, Ohio.

WE WILL BUY AND SELL

HONEY

of the different grades and kinds.

If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for WAX at highest market prices.

HILDRETH & SEGELKEN,

265-267 Greenwich St. 82-86 Murray St.
NEW YORK.

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THE TRADE IN BEES AND QUEENS.

We would respectfully call the attention of many of our readers who are obliged to purchase bees and queens to the fact that now is the time to order if you wish to avoid disappointment. By delaying the matter till later, when the queen-breeders are immersed to the head in business, you run the risk of being kept waiting till the season is almost over. Besides, the breeder is not sure what to do, whether to breed an extra number or let the matter take care of itself. It would be vastly better for the customer as well as the breeder if orders were sent some time in advance of actual requirement. This gives both parties to the transaction an opportunity to do business on a safe and satisfactory basis. The real season for breeding good queens in the North is quite short; hence the express need of a proper understanding beforehand. Usually with a little forethought all unpleasantness can be avoided.

FOUNTAIN PENS.

We are very glad to say a word in season in favor of the pens made and sold by the Laughlin Pen Co., of Detroit, and now advertised elsewhere in this journal. In our opinion, any person needing a good pen can very safely order from them; for, in addition to a positive guarantee with each pen, they make a very liberal offer to return the money plus the postage on all pens returned as unsatisfactory for any reason whatever. It strikes us nobody could do more in a business transaction than that, and for this reason we allowed the Laughlin Manufacturing Co. all the space they wanted to advertise their wares in this journal. We have given their Red Gem ink-pencil a fair trial, and found it was all it was represented to be, and a little more for good measure. We imagine the other pens they advertise are equally satisfactory, and it is out of the common to offer 14-carat gold fountain pens at the price they name. There is now strong competition in the pen business; but it is evident to us that the Laughlin firm can hold its own against all competitors when a really good fountain pen is wanted.

THE GUIDE TO NATURE.

Our friend Dr. Edward F. Bigelow has launched his new periodical, which he entitles *The Guide to Nature*, and it is well worthy of its title, for we have already perused two num-

bers, which sufficiently show the trend of the magazine. It deals entertainingly with all phases of nature in such way that the ordinary man or woman can fully comprehend what is meant. It is a scientific magazine for the plain people. In the May number there is an imaginary story of savages in the jungles of the Hoang Ho—just the material boys like to read. As a matter of fact it relates to a trip through a fine public park in the city of Stamford, Ct., where the explorer (Dr. Bigelow) meets with all sorts of wild things and many adventures. There is a department for the camera and another for the microscope; still another for domesticated nature, so that all tastes are catered to. It fulfills a mission.

HATS FOR BEE-KEEPERS.

Now is the time the bee-keeper is looking around for a soft comfortable straw hat on which to fasten a bee-veil. Such a hat has to withstand a good deal of rough usage such as the average summer headgear is not expected to stand. A hat which seems to fill the requirements is advertised in this issue by the Francis E. Lester Co., Mesilla Park, N. M. These hats are hand-made in Mexico, where the art of straw-hat making is well understood. They are so constructed that they fit almost any head, and being tough and durable, last a good while, even when roughly used. The bee-veil may be lightly tacked to the rim by a few stitches, and anybody may find this to be a very efficient and satisfactory mode of preventing bee-stings on any part of the head; and yet the whole outfit is quite light and, at the same time, durable.

TOEPPERWEIN'S WORD CONTEST.

Mr. Udo Toepperwein has written us to the effect that there were far more contestants than he had any idea of, and it will take time to discover who are the winners. An expert has been engaged to go over the answers, but it will be more than a week before he can make his report. In the meantime he asks all interested to exercise patience. He had a deluge.

LISTEN!

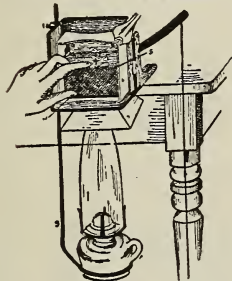
DO YOU HEAR THOSE BEES WORKING?

Soon they will want room or will swarm.

Have you gotten your hives and supplies? If not, send your order at once. If you have The A. I. Root Co.'s catalog you can order from it. We sell their goods at their factory prices. We can fill your orders promptly now. Write for further information and our 40-page catalog.

JOHN NEBEL & SON SUPPLY CO., HIGH HILL, MONTG. CO., MISSOURI.

RAUCHFUSS PATENT
COMBINED SECTION-PRESS AND
FOUNDATION-FASTENER.



Used by the largest comb-honey producers.

Successful Co-operation

means to the Bee-keeper:—The buying of the best Bee-supplies obtainable at the closest prices, and marketing of his products to the best advantage. Our association is co-operative, and organized for this purpose. We carry a large stock of high-grade goods such as:

G.B. Lewis Co.'s **Root's** **Dadant's**
Hives and Sections **Smokers and Extractors** **Comb Foundation**

Send to-day for our free 48-page Illustrated Catalog.

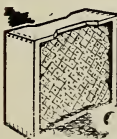
The Colorado Honey-Producers' Ass'n
1440-1444 Market Street Denver, Colorado

BEE KEEPING

will be a profitable industry this season.

Honey is high—short crop last year. The shortage of the honey crop for 1907 in the United States warrants bee-keepers to increase their colonies. About a half crop was produced, and in California, where the cheap honey comes from, only a quarter of the average crop was produced.

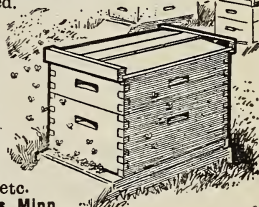
Get Ready Now for More Honey



Let us send you our catalog. We are manufacturers and sell only our own make of bee-supplies. Minneapolis is the largest lumber-distributing point; the Mississippi river furnishes us power, and our organization and labor conditions are the best for economical production. Send us an estimate of your requirements and let us give you prices. We have a large stock of standard bee-supplies on hand.

Dovetailed Hives, Sections, Section-holders, Separators, Brood-frames, Comb Foundation, Smokers, Extractors, Shipping-cases, etc.

MINNESOTA BEE SUPPLY COMPANY, 23 Nicollet Island, Minneapolis, Minn.



This Coupon worth 25 Cents!

If not now a subscriber and you want one of the most helpful aids to successful bee-culture—a paper that tells how to make your bees pay—you should subscribe for the

New Subscribers Only.

Name.....

Postoffice.....

State.....

AMERICAN - BEE - JOURNAL

A 32-page illustrated 50-cent monthly. It tells all about the best way to manage bees to produce the most honey; with market quotations, etc. A dozen different departments—one for women bee-keeper. . . . Best writers.

It will increase your Honey-money!

If you will send us your name and address with 25 cents (stamps or coin) together with this coupon, we will send you a trial trip of our journal for 12 months. Order now, and let us begin with this month's fine number. Address

American Bee Journal, 118 W. Jackson, Chicago, Illinois

THE SEASON FOR

I

Hives

II

Sections

III

Foundation

IV

Inside
Fixtures

V

Bees and
Queens

VI

Veils and
Smokers

THE A. I. ROOT COMPANY
SYRACUSE :: :: NEW YORK

TO THE BEE-KEEPERS of CANADA.

WE are pleased to say that we are able to offer, in Canada, goods manufactured by The A. I. Root Co. While we do not offer every thing listed in their catalog, we have selected such articles as we believe will best meet the wants of the Canadian bee-keepers.

The heavy duty and freight charges we have to pay make it impossible for us to sell in Canada at Root's prices. We have, however, made prices as low as possible, and in no case do we charge nearly as much extra as the amount of freight and duty we ourselves have to pay on the goods.

We would ask you, when comparing our prices with those of other dealers, to take into consideration the **QUALITY**. If you do so we feel satisfied that you will place your order with us. The splendid quality of the material sent out by The A. I. Root Co. has given "Root's Goods" a world-wide reputation. Remember, "The best is cheapest."

E. GRAINGER & COMPANY
Deer Park, Toronto, Ontario, Canada

Canadian agents for The A. I. Root Co., Medina, O., U.S.A.

BIENZENZÜCHTER!

von Deutschland, Schweiz, Oesterreich,
u. s. w., senden Sie fuer unsere
1907 Preisliste von

Bienenwohnungen, Rauchapparaten,
Honigschleudern, Handschuhen,
Bienenschleiern, Walzwerken,
Futterapparaten,
Porter's Bienenflucht,
Fluglochschiebern für Kasten,
Königinnenabsperrgittern,
Weiselkäfigen,
Schwarmfangbeuteln,
Entdeckungsmessern,
Dampfwachsschmelzern,
Wabenentdeckungsappa-
raten, und allen anderen
Bienengerätschaften der

A. I. ROOT COMPANY

Grösste Fabrik Ihres gleichen in der Welt

E MILE BONDONNEAU

General Vertreter für Europa und Kolonien
142 Faubourg Saint Denis, Paris, 10me.

Three Issues for 10 Cents

The question of requeening annually, or allowing the bees to do it when they get ready, is of much importance, and I think that

THE BEST ARGUMENT

yet in favor of the former is put up by S. D. Chapman in the *Bee-keepers' Review* for March—and then he shows how to do it at a cost of only five cents per colony for labor.

Many bee-keepers think it necessary to

OPEN EVERY HIVE

in the apiary in order to ascertain the condition of the colonies; but it is astonishing to note the number of things that a veteran can decide without ever opening a hive; and there is certainly some interesting reading in an article on this subject by A. E. Burdick, in the April *Review*, entitled: Outside Indications of Internal Conditions.

Probably no queen-breeder in this country has had more experience in the production of a

W. Z. Hutchinson,

HIGH GRADE OF QUEENS

in large quantities than has Mr. J. P. Moore, of Morgan, Ky.; and he tells in the May *Review* "How to Rear the Best Queens at the Lowest Cost." I think it the best article on queen-rearing that I ever read.

A man's success sometimes turns upon the kind of honey that he produces—that is, whether comb or extracted.

THERE ARE REASONS

why you should give one kind the preference. If you are uncertain about it, read the article by R. L. Taylor, in the May *Review*. Its title is "Comparative Advantages of Comb and Extracted Honey Production."

Send 10 cts. for the March, April, and May issues, and the ten cents may apply on any subscription sent in during the year.

A SPECIAL OFFER

will also be sent, showing how you can get the *Review* for this year and next at a very low price.

::

Flint, Michigan

And Still They Come

The following letter from one of our customers demonstrates in his own words the satisfaction our customers receive. Remember this is only one of the many thousands we receive.

Griggs Bros., Toledo, O.:—I received the hives and supplies to-day, which is the quickest I ever got goods after ordering. They must have come over in the Knabenshue's airship. They certainly are in fine shape—utterly impossible for any thing to have got lost.

Your shipping-clerk had them packed to perfection.

Respectfully, HUGH RICHARDSON,
Wood Co., O.

We should be pleased, to list you as one of our customers if you are not one already. Bear in mind we handle ROOT'S GOODS exclusively, not the cheap shoddy stuff which others are trying to palm off under the pretense that it's "as good as ROOT'S." Try ROOT'S and you will be convinced. TOLEDO is the place to buy; we save our customers annually thousands of dollars in FREIGHT.

A complete line of Incubators and Poultry Supplies listed in our free catalog. Send for one.

Honey and Beeswax wanted in exchange for supplies.

Special

200 cases of 60-lb. cans, good as new, at 50 cents per can. Special prices in quantities.

The Griggs Bros. & Nichols Co.
523 Monroe St. .. Toledo, Ohio

WESTERN Bee-keepers

.. will ..

SAVE TIME AND FREIGHT

by ordering ROOT'S GOODS
from Des Moines, Iowa.

Complete NEW STOCK now on hand. Our stock includes a full line of Danzenbaker hives and all other up-to-date goods.

Remember we sell at Root's factory prices, and offer liberal discounts now.

Estimates cheerfully given. Send us a list of your wants, and get our net prices by letter.

Our 1908 catalog is now ready to mail. Write for it to-day. Address

JOS. NYSEWANDER
565-7.W.7th St., Des Moines, Ia.

PITTSBURGH for ROOT'S Headquarters BEE-SUPPLIES at factory prices.

Also Poultry and Dairy Supplies, Seeds, and Pet Stock.
Get our catalog and prices.

Stapler's Seed Store 412-414 Ferry St. Pittsburgh, Pa.

\$1.00 Mexican Palm-Leaf Hat, 50c

A comfortable, durable hat for fishing, outings, and gardening. Guaranteed genuine Mexican hand-woven from palm fiber.

Double weave, light weight; colored design in brim. Retail at \$1.00. Postpaid for 50c to introduce our Mexican and Panama hats. Same hat, plain 40c; both 75c. All sizes.

SPECIAL OFFER. For \$1.00 we will send postpaid two hats like cut, with a nice specimen of Genuine Matrix Turquoise free. Art cat'g Mexican and Panama hats free.
THE FRANCIS E. LESTEE CO., Dept. EB5, Mesilla Park, N. M.



Wintering Bees in Danz. Hives

FALL RIVER, MASS., April 10, 1908.

F. Danzenbaker:—Kindly send booklet about your smoker as per your ad. in GLEANINGS, current issue, and for which I thank you in anticipation. I had ten hives, average good, last fall; now I have five that survived, and in Danzenbaker hives, and as I write they are lugging in pollen in good shape. Yours, H. N. BRIGHTMAN, Fall River, Mass.

(The defunct bees were in ten-frame Langstroth.)

Pretty good! five Danz. lived, five L. died.

F. DANZENBAKER, Patentee.

What's the Matter With Hilton?

WHY!

He has got his new goods fresh from The A. I. Root factory, and his 1908 catalog, and wants you to send for one free—40 pages illustrating and describing Root's goods at Root's prices. Send him a list of what goods you want, and let him tell you how much they will cost you.

Cash or supplies for beeswax at all times.

GEORGE E. HILTON

FREMONT, :: :: MICHIGAN

Furnishing Bees and Supplies to Bee-keepers has been our business for 15 years.

NEW YORK CITY

where our supply business is located, means quick shipments and low freight rates to our customers. Our prices are f. o. b. cars here, Colony of Italian bees in an 8-frame D. T. hive, complete.....\$9.00
Italian queens.....1.00
Catalog free.

I. J. STRINGHAM,

Aplaries, Glen Cove, L.I. 105 Park Pl., N. Y. City.

Northwestern Bee-keepers!

We are headquarters for the ROOT supplies for the States of Montana, Minnesota, the Dakotas, and Western Wisconsin.

You can save freight by ordering from this branch. A complete line of bee-keepers' supplies always in stock.

Secure a catalog at once.

BEES and QUEENS.—Your orders will be attended to.

The A. I. Root Company

H. G. ACKLIN, MANAGER

1024 Mississippi Street, St. Paul, Minn.

1884

1908

Root's Goods always in stock

FOR YOU

Twenty-two successful years manufacturing bee-supplies and raising Italian bees and queens.
. Root's Goods in Stock.

J. M. Jenkins

Wetumpka, : : Alabama

Dittmer's COMB FOUNDATION

is the best, not because we say so, but because the bees prefer it to other makes.

Dittmer's Process is Dittmer's

It has built its reputation and established its merits on its own foundation and its own name.

We make a specialty of working wax into foundation for cash.

Write for free catalog, and prices on full line of supplies.

GUS. DITTMER CO., Augusta, Wis.

Hammer Free!

With Every Order of Supplies of \$5.00 or Over.



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. Made of steel, nickeled.

Three per cent discount off all prices in catalog.

FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

John N. Prothero
Dubois, .. Pennsylvania

At St. Louis

On a  Line

to all points in the South and
Middle West.

Send for our free illustrated catalog of

Root's Bee-supplies

We sell at factory prices.
Send us a trial order.

Beeswax Wanted.

Blanke & Hauk Supply Co.

DEPT. B.

1009-11-13 Lucas Ave. St. Louis, Mo.

Manufacturers and Jobbers of Dairy, Creamery, Ice-cream, and Poultry Supplies.

THE DANZENBAKER SMOKER

PAT. OCT. 3, '06, JUNE 4, '07

GOLD MEDALS

St. Louis Exposition, 1904
Jamestown Exposition, 1907



IS THE BEST,
STRONGEST,
COOLEST,
CLEANEST,
CHEAPEST,
AND LARGEST
SMOKER SOLD
FOR A DOLLAR

The perforated side grate seen above holds a removable, metal, asbestos-backed fire shell, preventing burning the tin off the outer case, and deflects the air at right angles, preventing back draft to the valveless bellows. The air, passing to the back and over the top, cools and expels the smoke, fanning the burning fuel at top or side till all consumed, giving cool smoke for hours from one filling. It can't clog. No top-heavy cap to choke with soot; no valve to fail; no holes shedding sparks or hot ashes.

Four years' sales prove its success beyond a doubt, expensive dies making it uniformly perfect as possible to devise. We confidently guarantee full satisfaction or refund the price.

Price, \$1.00; 3 for \$2.50; by mail, add 25c. each

Send address of yourself and Bee friends for 8-page leaflet on "Smoker," and facts about Bees and Queens, 80 pages, free.

F. DANZENBAKER, Norfolk, Va.

North Texas Bee-keepers

will find Dallas the best point from which to purchase supplies. We have a carload of **ROOT'S GOODS IN STOCK**, and sell them at the Factory Prices. Don't forget that we can furnish any thing in the way of Field or Garden Seeds, Plants, and Poultry Supplies. Our large illustrated catalog for 1908 free on application. Mention **GLEANINGS** when you write.

TEXAS SEED AND FLORAL COMPANY

Dallas, : : . Texas

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OHIO

GLEANINGS IN BEE CULTURE

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VOL. XXXVI

MAY 15, 1908

NO. 7

STRAY STRAWS

DR. C. C. MILLER

"EIGHT QUEENS in one box hive," page 562. That's a stunner. How was it done? Did the eight winter together?

A. I. ROOT, p. 587, seems to be a little skeptical about the "good old times when we were young." I arise to endorse him by saying that never was there a year with more fun to the acre since I began to have fun than this good year of our Lord 1908.

KOUMIS. One quart of new milk, one dessertspoonful of honey, one teaspoonful of yeast. Make the milk just warm, add to it the yeast and honey, pour into a large jug, and pass from one jug to another for three or four times. Put each pint of koumis into a quart bottle, cork tightly, and keep in a warm room for 24 hours.—*Chicago Record-Herald*.

"SUGGESTIONS thankfully received" anent those several thousand pounds of honey candied in the combs, says New Mexico Chap, page 580. All right, here you are. Spread the combs flat on the ground where the sun won't melt them; and as the bees lick them dry, sprinkle them with water from a watering-can. But unless used for brood-rearing I fear the honey would soon be candied again.

THAT UNITED STATES analysis of honey, reviewed p. 549, surprised me in more than one way. It shows, as mentioned, that what is generally supposed to be honey from one kind of flower contains pollen of several kinds; also that alfalfa pollen was found in white-clover honey from States where alfalfa honey is supposed to be unknown. I had supposed that inversion of nectar took place only while in the honey-sac of the bees, but learned from that bulletin that inversion continues after the honey is sealed up in the comb.

B. D. HALL's plan of wintering two nuclei in one hive with a thin bee-tight division-board, p. 582, works all right. I have wintered many nuclei in that way. Looking under I could always see each nucleus clustered up against the division-board, the two forming a single cluster. It is well always to see that heavy frames of honey are up against the division-board, otherwise there is danger that the honey will be eaten away from the center, and one or both of the nuclei will have to move away from the center, losing the advantage of mutual heat.

MY SYMPATHY is with that New Mexico chap, p. 580, in the matter of "taking off honey in the afternoon so that the bees will not sting you and

the neighbors." In this locality the forenoon is generally the better time to take off honey; but when one makes a business of bee-keeping he can't stop for any particular time of day, but must work "from early morn till dewy eve," and sometimes later. Often we have started to work at 4 o'clock, A.M., and once we finished the day's work at an out-apiary by finding and clipping a queen by moonlight.

YE EDITOR says, page 486, "But what is to interfere with the apiarist giving A an empty comb at the time he gives her a frame of young brood from B?" A very serious interference is the lack of additional bees to cover the additional comb. [Perhaps; but under the conditions named, if we understand it rightly, there should be a sufficient number of bees to cover the additional comb.—Ed.]

ENDORISING your instruction, Mr. Editor, page 584, not to remove the old queen till the new one is in, let me add that, for extra precaution, it is well to go a step further and not remove the old queen till one to three days *after* the new one is introduced. Put in the new queen, caged, with no chance for the bees to release her; one to three days later take the old queen out and let the bees at the candy. That gives the new queen the same advantage we have in the dual plan of introducing virgins in nuclei. [A good suggestion.—Ed.]

E. H. SHATTUCK, page 581, I have some doubt that the dent in your queen had any thing to do with her supersedure. I have had several dented queens that lived long and happily. [If you will look up page 581 you will see that Mr. Shattuck said that the small dent appeared between the "wing-sockets." This shows that the injury in question was in the thorax, in the center of the back, and not on the abdomen of the queen. We have had a good many queens with dents in this portion of the anatomy; and these dents rarely if ever do any harm. Some of the best and most prolific queens we ever had carried a dent in their abdomens during their entire life; but a dent in the back between the wing-sockets would be a very different matter. Perhaps the dent you refer to was in the thorax; but we infer that you meant in the abdomen.—Ed.]

WHEN BEES are placed on a new stand to form a nucleus, they will promptly desert their brood, according to what we are sometimes told. I have formed hundreds of nuclei, and have had very little trouble from desertion. There is an immense difference between queenless and queen-right bees. While bees taken directly from a laying queen are anxious to get back to their home, queenless bees will mostly stay where they are put. The strength of the nucleus also makes a difference. A very few bees seem lonesome, and

feel like hiking out. Three frames of brood with adhering bees taken from a colony that has been queenless two days or more will stay in satisfactory numbers, wherever put, without any imprisonment. If only two frames are taken, the entrance should be plugged with green leaves or grass, which may be removed in three or four days, or the bees may be allowed to dig their way out as the leaves dry. No danger of smothering in a full-sized hive.

D. M. MACDONALD objects to the limited sense in which we use the word "tested" when speaking of a "tested queen." I do not blame him. ["Tested" has come to mean, by common consent, unless otherwise modified by some adjective, a pure queen and nothing more; that is, pure Caucasian, pure Carniolan, pure Italian, etc. It takes about 30 days to test her for this purpose. A select tested queen means one that is of good size and color, fairly prolific, with good-looking pure bees. "Extra select tested" means that she is extra in the qualities named. "Breeding queens" takes in the next higher grade, and has reference to a queen that has been tested for queen daughters as well as bees that she can produce. A queen that will not produce a fairly uniform marking of queens, whose bees do not show some of the qualities of the bees of their grandmother, can not be used for a breeder. She may show up well herself; but it is what her daughters will do that determines her value to the queen-breeder and to the man who would buy her. Then the word "breeder" is further qualified by the phrase "select" and "extra select." Extra and extra select take in all the desirable qualities usually named for a good strain of honey-gathering bees.

THE ALEXANDER plan for weak colonies in the spring was a dead failure the first time I tried it. I put a very weak colony over a very strong one, with an excluder between, and within 15 minutes the lower bees were carrying out dead bees from above. Since then I have put a wire cloth between the two stories for the first three or four days, and it is an entire success. After removing the wire cloth I take ripe brood from below without bees and put above. The bees promptly come up, making the upper colony the stronger. Then when it is returned to its own stand it will be weakened by the loss of field bees, making the two colonies of equal strength. [A good many had trouble with the Alexander plan when they first tried it, and so did we. It is important to put the two lots of bees together with as little disturbance as possible. But in spite of any thing that can be done, bees, especially some strains, will be stirred up, and then there will be trouble. The only sure way of keeping them from fighting is to place a wire-cloth screen between the upper and lower stories for two or three days, as you suggest. At the end of that time it may be removed, when every thing will move along harmoniously. We therefore advise and recommend in our A B C of Bee Culture, where this method is given, the use of wire cloth for three or four days as a precaution.

The Alexander bees are a very gentle leather-colored strain, and, when handled by a man who knows how, the wire cloth may be omitted. But the average beginner—yes, we may say the aver-

age bee-keeper—will do well to use the screen. —Ed.]

YE EDITOR figures, p. 557, that a queen-trap does not shut off much ventilation because the area of passage in the trap is greater than the area of the hive-entrance. I don't believe you are figuring on the right basis, Mr. Editor. One year I had combs melt down in hives because of a cornfield on one side and dense underbrush on the other, although the area of passage through the corn and underbrush was many thousand times greater than the area of the hive-entrance. Will not the trap close to the hive be as bad as the underbrush a rod away? [It can hardly be possible, doctor, that a cornfield on one side and underbrush on the other would so obstruct the entrance that the combs would melt down. Was there not some other untoward condition? As long as the sun does not strike directly on the hive, the bees, in the northern States at least, can make up for lack of circulation of air *around* the hive by an artificial circulation of their own *inside* of the hive to prevent melting down, providing the entrance be large enough. Of course, a perforated zinc or wire guard might cause some friction in air-currents; but as long as the passageway is four times that of an ordinary entrance, we do not believe that the item of friction of the air in passing the bars or perforations would cut much of a figure. It never has with us, and we have had hives exposed to the heat of the sun. But if, on the other hand, we have too small an entrance on a hot day in a strong colony there is almost sure to be trouble. —Ed.]

EDITORIAL

THE National Irrigation Congress meets this year at Albuquerque, New Mexico. It is expected to be the most successful meeting yet held. More particulars later.

THERE will be a land-opening at Twin Falls, Idaho, on June 1, when 80,000 acres of irrigable land will be disposed of under the Carey act. Homesteads may be obtained by power of attorney.

IN the case of weak colonies we are not sure that the storm-doors were an unqualified success, although we believe they helped in the case of the strong ones. We will explain this matter a little more fully next fall, and will at that time be prepared to submit several models which we hope will overcome to some extent the defects of those already tried.

THE National Bee-keepers' Convention meets this year at Detroit, Oct. 13, 14, 15. Make a mental resolve to be there. Also, promise your wife that you will take her along. The opportunities are great for a real good time for every one. Besides, Detroit is central, and an admirable place for a convention. Probably you will take care of the bees with greater zest this summer if these hints are taken to heart.

Now is the time of all the year when the bee-keeper will need to put in his best efforts. There is an abundance of clover this year, and there is a chance of getting something providing he is up and doing.

MANY ignorant fruit-growers will be spraying their trees while in bloom. Our bee-keeping friends should wait upon these people, and in the most kindly manner show them their mistake from the standpoint of the fruit-grower as well as that of the bee-keeper. If you haven't any literature to hand them write us for it.

THE next session of the Farmers' National Congress will meet at Madison, Wisconsin, beginning Sept. 24. This will present a unique opportunity for some of our readers to hear men of national and international fame discuss the great farm problems of our time. It is a sort of institute of institutes.

OUR NEW FACE OF TYPE.

NOTICE that this issue is printed on a brand-new face of type. Our big editions, with an occasional double number, have been wearing out our old type very rapidly. It takes only a year now, with our big circulation, to wear out nearly 1500 lbs. of type on GLEANINGS alone.

\$4000 FOR 400 COLONIES OF BEES IN TEXAS.

WHILE conditions for a honey-flow in Southwest Texas have been somewhat discouraging of late, yet it is significant that there is enough confidence in the industry for one party to pay another one \$4000 for 400 colonies of bees. This price for so large a number, in spite of the discouraging conditions for the last two years in that portion of the country, shows a confidence in bee-keeping in the Lone Star State scarcely equaled anywhere else.

PROSPECTS FAVORABLE FOR THE EASTERN STATES.

JUDGING by the rush of orders that have come in, the prospects in most of the Eastern States for a honey-flow seem to be very good. While the spring has been somewhat backward, and even cold in many States, it has been by no means as unfavorable as a year ago, during which thousands of colonies all over the country were lost. There has been a large amount of rainfall; and if suitable weather comes on in June and July there is every prospect of there being a fair crop.

ANOTHER WORD TO THOSE WHOSE SUBSCRIPTION EXPIRES.

WE are rapidly taking out the names of those who are back on their subscriptions; for under the new ruling of the Department, as we have already stated, we are not allowed to continue any subscription except a short period after the time for which it is paid. It is important for those in arrears, who do not wish to lose any of the numbers, to renew at once, as we can not promise to supply any back numbers between the time of stopping the journal and the commencing of it again, although we will furnish as long as our supply lasts.

PARCELS-POST LEGISLATION DENIED BY THIS CONGRESS.

It is practically decided there will be no parcels-post legislation this session of Congress. The Postmaster-General has done his best to influence legislation along this line, but to no purpose. He has shown that a parcels post on rural routes would make rural free delivery self-sustaining. He estimates that there are nearly 40,000 rural routes, serving 15,000,000 people, which would, at the lowest calculation, average five packages each trip throughout the year. This would give an increased revenue of \$15,000,000, and that sum, it is estimated, would wipe out the present deficiency. But it is no use; the politicians are thoroughly alarmed—in fact, they are scared to mention the subject at all, as an election is near at hand. While this Congress didn't give us parcels post it will come—yes, is bound to come. Political bugaboos can not always keep back what is a great success in Europe.

W. K. M.

SOUTHERN CALIFORNIA SAGE CROP A FAILURE AND BEES STARVING TO DEATH.

THOUSANDS of colonies, owing to unfavorable conditions, in Southern California, are reported to be dying of sheer starvation. When the question is asked, "Why don't the bee-keepers feed?" the answer is that there is no honey crop in sight, and they feel that they can not draw on an already attenuated, or, worse yet, overdrawn bank account to buy sugar in sufficient quantities to keep the bees over until next February or March for a honey-flow that may or may not come. The policy with some, at least, seems to be to let the colonies starve except a comparatively small number; and when the next flow actually is in good prospect this number is increased. Whether it is cheaper to increase than to keep alive by feeding a large force of bees is a serious question.

In some portions of Southern California where there is irrigation there will be a crop as usual. It is the lack of rains on the mountainsides that can not be irrigated that plays havoc with the sages.

IDENTIFYING HONEY BY MEANS OF POLLEN-GRAINS AS SEEN UNDER THE MICROSCOPE.

THE following letter, received from W. J. Young, Assistant of the Chemical Laboratory of the Bureau of Chemistry, of the Department of Agriculture, Washington, D. C., will explain itself. Mr. Young, it will be remembered, was one of the authors of the United States Bulletin, No. 110, of the Department of Agriculture, a review of which we gave on page 549 of our last issue. His interest in this matter is certainly appreciated, and we feel sure our subscribers will be glad to respond by sending him samples. The letter is as follows:

Mr. Root:—I have been interested in the discussion of the color of heartsease honey in GLEANINGS for Dec. 15, 1907, p. 1504, and elsewhere, and believe that the case might be settled with comparative ease by a microscopical examination of the pollen along lines pointed out in Bulletin No. 110 of this Bureau. I am, therefore, writing to your contributors in order to obtain, if possible, samples of what they consider to be heartsease honey. Should any of your readers be in position to aid me in securing such samples I should be pleased to have them communicate with me about the matter.

W. J. YOUNG,

April 25.

Assistant Microchemical Laboratory

THE PREVENTION OF SWARMING IN RUNNING FOR EXTRACTED HONEY.

In this issue we have two quite notable articles, one by W. Z. Hutchinson and the other by E. D. Townsend, on the production of extracted honey, giving methods in connection therewith for the prevention of swarming. We tested modifications of these in our own yards some years ago, and we found them eminently successful. The drawing of the brood from the lower story, and putting it into another upper story, gives the queen more laying room and breaks up very largely the tendency to swarm, for the time being. Of course, the swarming problem is comparatively simple in the production of extracted honey; but there are some methods that are more satisfactory than others, and among the former may be named those advocated by the writers above.

THE APPALACHIAN FOREST RESERVE.

NOTHING will be done by the present Congress with regard to the above-named reserve, as proposed by its advocates. Judge J. J. Jenkins, chairman of the House Committee having the matter in charge, reported that, so far as he and his committee could see, to create such a reserve was not a function of the United States government unless it could be shown that it would have a beneficial effect on navigable rivers whose sources lie in the mountains intended to be reserved. This will hardly kill the project, because one of the objects of the proposed reserve is to protect the flow of the rivers by keeping back floods and letting down water during dry spells. It is the most gigantic enterprise ever proposed by any government, as it would eventually cost 1000 million dollars, and stretch for 1500 miles, from Maine to Georgia or Alabama. Nearly 1000 commercial organizations reported in its favor, and the general attitude of Congress is favorable; but it is too large an enterprise to be settled offhand. It would be a grand bee-keepers' reserve.

W. K. M.

SOUTHERN BEE CULTURE.

MR. J. J. WILDER, the aggressive and enterprising apiculturist of Cordele, Ga., has recently entered the lists of bee authors and publishers by the introduction of a new book on bees and bee-keeping with the title of "Southern Bee Culture," published by The A. I. Root Co. There was a distinct need of such a book, for in recent years we have had no work dealing specifically with bee-keeping as it is practiced in the great and beautiful southland we know as Dixie. We are of the opinion this new work will fill all requirements, as it is written by a Southern man of great experience and practical knowledge; besides, he has added, to his own observations, communications from well-known Southern bee-keepers, such as Mr. Louis H. Scholl, of Texas; Mrs. Mary L. Hawley, of Oklahoma; Messrs. Worthington and Smith, of Mississippi; Messrs. Crawford and Dawson, of Louisiana; Messrs. Bearden and Forehand, of Alabama; Messrs. Chatham and Simpson, of South Carolina; Mr. C. C. Ramsey, of North Carolina; Mr. T. S. Hall, of North Georgia, and Messrs. Hirshen and Tuck-

er, of Florida. In this way the book covers a wide field with accurate information as to the bee-keeping possibilities.

Over a great portion of this territory the bee-keeping resources are imperfectly developed or not at all. There are still far too many bee-keepers in the South who use "gums"—not hives. These have the merit of being cheap, but they get "cheap" results. Mr. Wilder addresses himself to this class, and the instruction he gives is plain and practical. He eschews all superfluities, and deals largely with the practical. His aim is, evidently, to advise the beginner; but many others will find the book readable and instructive—more particularly those who would like to move to a new location in the South.

The pages are about the size of these, and there are 150. The price is 50 cents in paper covers, which we think is reasonable, for the book is well printed on good paper, and fairly well supplied with suitable illustrations. W. K. M.

EXTRACTED-HONEY PACKAGES; PREVENTING LEAKAGE AROUND THE CAPS.

AT the last convention of the Northern Michigan Bee-keepers' Association, held at Mancelona, April 8 and 9, a very interesting discussion took place on the general subject of putting up extracted honey. In answer to the question, "How can honey be prevented from oozing out around the screw-caps of pint-cans?" the following plan was given:

Fill the cans with honey, and place them in water heated to 160°. While they are still hot, put on the caps and turn them down as far as possible, being careful meanwhile to have every thing level, so that the honey may not wet the rubbers. After the cans are cool, the caps may be turned down a little more; and if the rubbers during this time have been *kept dry* there will be no leakage.

In Northern Michigan, considerable honey is put up in tumblers, and there were several plans given for making the caps tight. One member advised brushing the insides of the caps with melted paraffine and then applying them to the tumblers which had meanwhile been filled and cooled. With this plan no paper is used.

Another used paper disks cut about half an inch larger in diameter than the top of the tumbler. These were dipped in hot paraffine, instantly applied to the tumblers, and crowded down over the tops with hot caps. Parchment paper was used. Ordinary paraffined paper would not do, since it must be wet with hot paraffine at the time it is put on.

Mr. C. F. Smith, of Sheboygan, uses no paraffine at all, and still has no leakage. He procures a special crinkled paper like that used as a lining for sugar-barrels, and the disks made of this are crowded on the tops of the tumblers under tightly fitting caps. With this plan, and, in fact, with any similar plan, it is important that the tumblers be uniform in size, so that there may be no variation in the fitting of the caps.

Corrugated paper should be used under and over the jars in the crate, and the cover of the crate should then press lightly on the corrugated paper in order to prevent any possible loosening of the caps during shipment.

REQUEENING ALMOST AUTOMATICALLY.

THE following, appearing in the *Bee-keepers' Review* for April, looks so feasible that we are glad to offer it to our readers:

Mr. J. H. Collins, of Bardwell, Kentucky, writes me of a plan he uses in requeening, whereby it is not even necessary to hunt up the old queen. Here is the plan:—

Prepare a super or upper story by boring two holes near its lower edge. Cover one hole with a piece of queen-excluding zinc, and fit into the other a tube, several inches long, made of wire cloth. A tube half an inch in diameter and six inches long is large enough. Lay a queen-excluder over the brood-nest of the hive that is to be requeened, set on the super prepared as just described, having the openings over the entrance to the lower hive, and put into the super two combs of brood. The bees from below will come up and cover the brood, when they should be cut off from the lower hive by putting a piece of wire cloth between the upper and lower hives. The warm air and odor from the lower hive can come up into the super, but the bees in the latter must use for an entrance the holes that were bored, one covered with queen-excluding metal, and the other furnished with a tube of wire cloth.

The next step is to furnish this super with either a ripe queen-cell or a virgin queen. When ready to mate, the queen will leave the hive by the way of the wire-cloth tube, but is almost certain not to find the outer opening upon her return, and to be attracted to the lower entrance by the crowd of bees passing out and in. The young queen is vigorous, slim, and spry, while the old queen is more feeble, slower, and clumsy from her load of eggs. The result is that the young queen comes off victorious.

HIVES VS. METHODS FOR PREVENTING SWARMING.

PROBABLY no other subject related to bee-keeping has been so thoroughly discussed as has the swarming question, and yet something new is appearing all the while. By far the greatest proportion of the matter relative to the subject has to do with methods rather than fixtures; but for some reason, there is no one method that gives universal satisfaction for preventing swarming year after year. In view of this, Mr. Aspinwall has been working persistently for a long time to perfect his non-swarming hive, which, as most of our readers know, has been described in these columns. One extensive producer, however, in commenting on the Aspinwall hive in the *Bee-keepers' Review*, page 111, contends that he would not want it, even if it should prove to be all that the inventor now claims for it. He says:

From past writings from several sources, it is apparent that some of us know enough to put in practice very successful non-swarming methods, holding all of the bees together, if we wish, and I have no doubt that these methods require as little labor as is required in the management of the Aspinwall hive. Mr. Aspinwall must spread his brood-combs, insert slatted dummies, then "remove the outside comb of the strongest colonies at the end of two or three weeks of white-clover yield because solid with pollen."

A successful method can be applied to almost any hive, with any supers; while to stock our yards with hundreds of non-swarming hives and supers will mean the discarding of tens of thousands of dollars' worth of supplies, and the purchase of other supplies at a cost of at least double the cost of the old outfit.

I am entirely willing that the non-swarming hive be further improved and put before the people for trial in various localities; but I shall continue to search and study for better non-swarming methods, confident that I seek a better and more logical solution than do the seekers for the non-swarming hive.

"CORN SYRUP" OBJECTIONABLE AS A SYNONYM FOR "GLUCOSE" ACCORDING TO THE MAINE EXPERIMENT STATION.

PERHAPS some of our readers are of the opinion that we are rather too hard on glucose as a food; but GLEANINGS is by no means alone; in fact, the class publications, which thoroughly understand the problem, are at one with us in condemning the recent glucose-corn-syrup decision made by Secretaries Strauss, Wilson, and Cortel-

you, sometimes known as the "kitchen cabinet." The *American Grocer*, representing the grocery trade, and the *Louisiana Planter*, representing the cane-syrup trade, are strong denouncers of the corn-syrup decision. It may be thought that these organs are unduly prejudiced; but here comes the report of the Maine Experiment Station. Note what it says:

ADULTERATED AND MISBRANDED MOLASSES.

Practically the only adulterant found was glucose. Most of the samples examined carried sulphurous acid. In practically every instance the glucose was added to improve the color and "body" of the molasses. In most cases the goods were correctly branded, although frequently the word "corn syrup" was used as a synonym for glucose. Corn syrup is objectionable as a synonym for glucose for many reasons, chief among which is that it is not a syrup as defined in the Maine food standards, and it is misleading, as the average consumer does not realize that glucose is meant by corn syrup.

W. K. M.

SWEET CLOVER GETS ITS DUE.

Wallace's Farmer, published in Waterloo, Ia., is generally credited with being the very best authority among farm journals when clovers are up for discussion, so that any thing it has to say is worth reading and studying over. We recently had occasion to commend its position on the problem of sweet clover as a fodder-plant. Again we are privileged to quote another pronouncement in its favor by the same authority. What it says deserves careful consideration by all American bee-keepers. If your neighbors are prejudiced, reason with them, and endeavor to show them that sweet clover is nearly the equal of alfalfa for feeding, and yet it grows almost anywhere. Most writers seem to forget that sweet clover is admirably suited to sheep-feeding, and in the famous San Luis Valley, of Colorado, hogs are pastured on it, and finished off on peas, producing the finest pork known to this country. Also the finest lamb mutton is produced there. Here is what *Wallace's* says:

IS SWEET CLOVER A WEED OR A VALUABLE GRASS?

Farmers generally regard sweet clover, also known as *Melilotus alba* or Bokhara clover, as a weed—not a bad one, but unsightly, though fragrant.

In the drier sections where clover does not grow readily, this grass may be regarded as valuable. It is true that cattle do not eat it readily until accustomed to it; neither do most men like tomatoes at first, though they may become very fond of them afterward.

We happen to know two or three men who use sweet clover for pasture right along, and have no complaint about their cattle not eating it. One of our correspondents in Eastern Iowa, writing with reference to the fields of Mr. Coverdale, who recommended it so highly in our columns last year, says:

"In regard to Mr. Coverdale's clover, I have been watching it very closely and believe there is something in it. His cattle went off this grass fast last fall, and sold in Chicago as high as three-months corn-fed cattle."

Sweet clover should not be considered a weed in sections where red clover does not do well and alfalfa is not practicable. There are sections in the South where sweet clover is probably the best clover they can grow. Whether it is a weed in the corn and grass States is evidently open to discussion. We do not recommend its growing where the farmer can grow either common red clover or alfalfa, because sweet clover makes a very coarse hay; and, besides, cattle have to be trained to eat it. Nevertheless, in view of the testimony of men who grow it, it must be considered an open question whether in this section it is a weed or a valuable grass.

W. K. M.

A GLUT OF OFF GRADES OF COMB HONEY; PRICES FOR 1908.

AT the present time the markets are flooded with off grades and No. 2 comb honey, much of it candied. This is an unfortunate condition just now because the goods are seeking a buyer at greatly reduced prices, and these reduced prices have a tendency to depress the market on new

goods, fancy and No. 1. The general hard times, which will probably last for some months to come, will probably make prices on comb honey ease up somewhat; and we desire, therefore, to suggest that some producers raise less comb honey and more of extracted, because extracted always has a market, but at lower prices. Where one has white table honey, and can produce 90 per cent No. 1 and fancy comb honey he will have no trouble in selling it at good prices providing he markets *early*; but if, on the other hand, much of his crop is dark or off-flavored, he should produce extracted largely. Or if he has light honey, but is likely to have a sudden stoppage of the flow, leaving on his hands a large number of unfinished sections, he had better produce both comb and extracted, running more toward extracted as the season closes.

MORE IRRIGATION IN IDAHO, AND MORE ALFALFA COUNTRY TO BE OPENED UP.

We have already alluded to the Carey law, by which public lands in the arid region are reclaimed by private enterprise under the immediate supervision of the government, which fixed the price the settler must pay, and, besides, inspects the dams and canals to insure stability. Generally speaking, lands obtained under the Carey law are actually as safe as Uncle Sam's own reclamation projects.

Reports from Idaho are to the effect that the Twin Falls region will soon have the largest tract of irrigated land in the United States, 1,550,000 acres. This will be accomplished by carrying the present canal on the south side across the Salmon River, thereby opening for settlement 800,000 acres now lying useless, but nevertheless rich land. The amounts in acres are as follows: Twin Falls, south side, 220,000; Twin Falls, north side, 200,000; Twin Falls, Salmon River, 150,000; Twin Falls pumping-plant, 50,000; Idaho Irrigating Co., 110,000; Glen Ferry Co., 20,000; total, 1,550,000 acres. In time this will sustain a population of 750,000 persons in peace and plenty. This means there will be a large expanse of good bee territory opened up to bee-keepers.

W. K. M.

THE PATENTABILITY OF AN APPARATUS OR DEVICE FOR MELTING CAPPINGS AS FAST AS THEY LEAVE THE UNCAPPING-KNIFE.

On page 560 of our last issue we discussed the patentability of the various devices for melting the cappings as fast as they fall from the uncapping-knife. It will be remembered that we stated that the patent of F. R. Beuhne, of Jan. 8, was not, in our opinion, broad in its claims, but confined to only one particular form of construction. We have since obtained the opinion of C. J. Williamson, a patent attorney and an expert on patented bee appliances, from Washington, D. C., who says the patent in question "is not a basic or broad one, but is of very limited scope. Each of his four claims is so narrow, indeed, that not one of them is infringed by either the Mercer apparatus described and illustrated in the article by your Mr. H. H. Root, pages 217, 218, GLEANINGS for Feb. 15, or by the Peterson apparatus illustrated and described in GLEANINGS for May 1, page 559." Continuing, he

says it is impossible for Mr. Beuhne or any one else to obtain any valid broad claims on his apparatus in view of certain other patents that have been granted to other parties, of prior dates.

When we wrote Mr. Williamson we told him it was our opinion that, while the claims of the Beuhne patent were narrow, the *specifications* were sufficiently explicit to bar any one else from securing any strong claims on an apparatus of a different construction. In reply to this he says, "Your Mr. E. R. Root is right in his view that the Beuhne patent would prevent any one else from obtaining a broad or basic claim on an apparatus for treating comb cappings unless such other persons could show that they completed their invention prior to July 10, 1907, the date of filing the application on which the Beuhne patent was issued."

For the present, at least, machines can be built on the lines of either the Mercer or the Peterson models by any one, and according to Mr. Williamson such builder can even go so far as to use the vertical cylinder for heating the uncapping-knife, shown in the Peterson drawing, page 559, last issue, providing it does not have an overflow pipe near the top and an emptying tap or faucet at the bottom.

But Mr. Peterson and Mr. Mercer have both filed applications, and they may be able to procure patents covering some detail of construction; but, according to the evidence before us, such detail would not be a vital part of the principle of melting the cappings as fast as they leave the knife, such cappings coming in contact with a hot plate or surface.

THE RUSSIAN GOVERNMENT EXPERIMENT STATION.

Mr. Abraham E. Titoff, formerly of Ioamosa, Cal., was a visitor to Medina for several days last month preparing for his return to Russia, where he will assume the position of Expert in Apiculture to the government of Kieff. The province of Kieff is admirably suited to bee culture, being known as the land of nightingales and cherry-blossoms. The climate is somewhat like that of Kentucky, probably. The city of Kieff is an educational, scientific, and literary center, being particularly famous for its great technical school, which is not surpassed by any other country. It also has a university and a number of colleges. Mr. Titoff's lines will, therefore, be cast in very pleasant places. He will travel through the state or province of Kieff, instructing the farmers in modern methods of keeping bees. During the five years he has spent in the United States he has perfected himself in the American methods of bee culture, and of course will do his best to instruct his Russian pupils in our methods. He intends to keep thoroughly well posted on all new developments in American bee-keeping. Mr. Titoff has a happy, friendly manner, so that we feel sure he will succeed in his new sphere of action.

Before leaving California Mr. Titoff disposed of his queen-rearing business to Mr. E. M. Graves, of Ohio, who will conduct it on the same good lines as formerly.

On his return to Russia, and when he gets the wheels of his office running smoothly, he expects to be able to breed a few Caucasian and Carniolan queens for export to this country. W. K. M.

FANCIES AND FALLACIES

By J. E. CRANE

Those engravings of the buckling of foundation in sections, p. 152, are perfect. It tries my patience just to look at them.

L. E. Mercer's cartwheel arrangement of bee-house and apiary, p. 149, is novel and good, but not very economical of space. When hives are in straight rows, why not have open spaces in the rows or through the rows in a direct line from the house to any part of the yard?

On pages 158 and 159 Mr. Fr. Greiner makes some very interesting suggestions, and valuable ones as well. Let us plain honey-producers remember the use of a pin stuck in a stick for transferring those little soft crescent-shaped baby larvæ, which to me is the dread of artificial queen-rearing.

A CHEAP AND SERVICEABLE FEEDER.

By the way, I used a new style of atmospheric feeder last fall. Being short of feeders I sent for 100 friction-top gallon cans. We had only to punch the cap full of holes, and we had 100 feeders holding about 10 lbs. of syrup, at a cost of 10 cts. apiece. When through feeding they can be cleaned, and used for a long time.

LIQUEFYING CANDIED COMB HONEY.

The hot-air method of liquefying honey as described on page 145 is of considerable value. We have put in steam apparatus for this purpose the past season, and find it is easy to keep the temperature of our tank-room from 90 to 110 degrees. Honey kept there for a day or two is much more readily liquefied when placed in a water bath at 140.

MAKE ALL THE MONEY YOU CAN.

"While you are making money at keeping bees, why not make all you can?" says Louis H. Scholl, page 206. Well, that depends. I have tried it a great many times, and never yet succeeded. It is a good deal like trying to get every hill of corn to yield as well as the best hill. I never could. Our seasons vary so that I almost always find at the close of a season I have made some mistake.

ARTIFICIALLY REARED QUEENS.

Mr. Greiner, p. 158, fears that artificial queen-rearing will cause a deterioration of our bees. Guess not. Read and read again what Mr. Alexander says, p. 210. Let me quote: "As I look back I find that the seasons when we received our largest surplus have been, without a single exception, the ones following the year when we reared our queens from some special queen whose colony had given us an unusual amount of surplus the previous summer. It requires only four or five years of careful selection to make a great change in bees in their honey-gathering qual-

ities and in their disposition, until they seem like quite a different race of bees." This does not look like deterioration. Better tack this paragraph up over the door of the honey-house.

ADULTERATION AND MISBRANDING.

W. K. Morrison, p. 202, says there is very little adulteration now. I believe he is correct; but while a single firm can put out, or bottle, 500,000 lbs. and upward, in one year, of Southern and amber California honey, and mark it all "pure clover honey," there will be room for some missionary work. [Give this firm's name over to the Secretary of Agriculture, Washington, D. C. This would stop such work.—Ed.]

HONEY AT HOTELS.

"Honey as an article of food at our leading hotels" is worth while to keep drumming up. I can bear witness to the good quality of the honey at the American House, Medina; and it is good advice, too, to supply them with only the best. And, say! another thing—when traveling ask your waiters at the tables for honey. It is amusing to see the vacant look on their faces as they retire and come back to inform you in a meek way that they have none.

COMB-HONEY COLONIES SHORT OF STORES.

Stray Straws, p. 139, quotes Doolittle as saying that, in his locality, a colony which has stored comb honey is rarely short of stores for winter, but thinks it not true at Marengo with eight-frame hives. It is not true here, even with ten or twelve frame hives. There is a great difference whether we have only clover for surplus or clover, basswood, and buckwheat. Clover usually fails in July with the hive full of brood and scant stores.

PROHIBITION ON PULLMAN CARS.

Stray Straw, p. 200, "Prohibition, nowadays, is all the while cropping out in new places and in new ways." Just so. Recently the Pullman Car Co. ordered all their cars in the United States to discontinue the sale of intoxicating liquors. Now if they will sell comb honey in all of their dining-cars, as they do in some of them, the bee-keepers of the country will be the last to complain. [Good suggestion. We may tell you on the sly that some bee-keepers are already furnishing the Pullman people comb honey, and they are buying lots of it.—Ed.]

DOOLITTLE'S SIMPLE PLAN OF REQUEENING.

In this same article, page 159, Mr. Greiner discusses requeening, and the best methods of introducing the young queens, none of which seem so simple and inexpensive, especially where extracted honey is produced, as that described on pages 45 and 111 of "Scientific Queen-rearing," by Doolittle, which is, briefly, this: Hatch a young queen in an upper story and shake her with the rest of the bees below, or in front of the entrance, when she will surely supersede the old queen. I think every year I will try this method on a larger scale; but when the time comes I find my hands so full of other things that I do not carry out my plans.

BEE-STINGS FOR RHEUMATISM.

Your head is level when you say, Mr. Editor, p. 153, that you "have no faith in bee-stings as a cure for all forms of rheumatism, nor even for the same forms that afflict different individuals." Last spring, when our man Lewis came to help us, he complained bitterly of his swollen and inflamed wrists. He had been working in a damp pulp-mill. A few bee-stings applied gently to his painful wrists relieved him at once. On the other hand, I have been laid up for over five weeks this winter with rheumatism after receiving enough bee-stings to render me immune the rest of my life, I would suppose.

VISITING BEE-KEEPERS.

"It pays the bee-keeper to go visiting occasionally. Whenever occasion offers, take a trip around to other bee-keepers, and a short stay with them may make you more enthusiastic when home again." He says, same page, and he never said a truer thing, "I never visited another bee-keeper without being benefited, so far as I remember. Even a shiftless bee-keeper may give you some points and set you to thinking." And now, friend Scholl, I wish to thank you for your efforts at exhibiting and introducing granulated honey. It is going to take a lot of "hot air" to introduce it and make every one understand it, but it must be done.

THE LOSS IN FEEDING A THIN SYRUP.

The article by Allen Latham, p. 212, "Thick Syrup vs. Thin for Winter Feeding," is one of more than ordinary value, it seems to me. I have been especially interested in his estimate of the loss by feeding thin syrup in place of thick. I have no doubt in my own mind that his estimates are based on most carefully conducted experiments, and he knows whereof he affirms. He estimates there is a loss of nearly one-fourth by the activity of the bees in the amount of winter stores a given amount of sugar will give if fed thin or thick, to say nothing of the loss of vitality in the bees fed. I have fed a large amount of sugar syrup during the past 25 years. I began by feeding $2\frac{1}{2}$ sugar to 1 of water; but after a time I dropped to 2 sugar to 1 water. If fed warm, bees will, as a rule, take it up quickly. Last fall I had one yard very short of stores, and required some 25 or 30 lbs. of thick syrup each, to last them until June. But this yard was some ten miles from home; and to save time and cost of hauling syrup so far I decided to take a ton of sugar to the yard and then get water near by and mix and feed thin syrup—half sugar and half water by weight. I did so, and finished feeding in three days, and thought it a success; but when I came to pack for winter I was astonished to see how light the hives were in stores, in this yard, and have been unable to account for it until these statements of Mr. Latham appeared. Had I fed all my bees in this way there would have been a loss of more than \$100 worth of sugar. I find no trouble, as a rule, in feeding sugar 2 to 1, if fed when warm. A single colony will sometimes take up 25 lbs. of syrup in 24 hours.

Later.—I felt anxious about those bees fed on thin syrup, and went up to the yard to look them over the fore part of March, and found 32 colo-

nies dead—yes, "dead as a door-nail," and every one was dead from starvation, and others were on short rations. Now, I have had to feed most of my colonies in the fall for the past 25 years, and this is the first time I have met with any serious loss from starvation, and also the first time I have ever fed thin syrup or cold syrup, and I can not help thinking there must have been quite a loss from warming and reducing so much thin syrup. It would even have required a considerable amount of fuel to warm and reduce 4500 lbs. of syrup (half water) to syrup one-fifth water. And this the bees had to do with the sugar syrup fed—rather expensive method. I had 136 colonies in this yard.

BEE-KEEPING IN THE SOUTHWEST

BY LOUIS SCHOLL

The spring is at least a month early in most parts of the Southwest. The bees have been swarming since March 1, and all hives are just boiling over with bees.

The first honey-flow of 1908 opened about March 1. The main sources were Texas persimmon (*Diospyrus Texana*); round-flowered catclaw (*Acacia Raemeri*ana), and several other early bloomers.

Wintering my bees in three shallow stories of the divisible-brood-chamber hive gives me a large brood-nest and rousing colonies early in the spring. The comb capacity is equal to 18 L. frames, and from 40 to 50 lbs. of honey is left to the bees in the fall.

The apiary making the largest average of surplus last season, and coming out strongest this spring, is made up of different combinations of hybrids from Holy Land stock. They are hustlers, but they hustle every thing at times. They are ferocious stingers. Now I am in a quandary—which is better, those stings or a few less pounds of honey?

To prevent swarming with the least amount of labor I cut up the brood-nest in the three shallow stories of the divisible-brood-chamber hives like this: The upper story is being gradually filled with honey from above, and the brood will be crowded out of it by the time the main honey-flow comes in April. The middle story is full of brood, while the lower one has only a portion of the upper part of its combs with brood. Swarming will be retarded until the honey-flow by simply placing the lower story, just mentioned, between the two filled stories, providing it is done immediately, *before the swarming fever is contracted*. In so doing we tear asunder the brood-nest by furnishing the story containing the frames having the empty cells for egg-laying. As soon as the honey-flow begins, all swarming ceases.

For the bee-keeper who does the right thing just before it is too late, swarm control is quite easy. Experience has taught me this again this

year with my fourteen apiaries and a most favorable spring for excessive swarming.

THOSE WIDE BOTTOM-BARS.

Wide bottom-bars are not only objectionable because they do not allow free examination of the combs from below, but frames with such are not as easily removed and replaced in the hive as those with narrow bottom-bars. In rapid handling, especially when the first comb is taken out, the wide bars cause the bees to be rolled over the combs of the next frames, and there is trouble—more so if the combs are not exactly straight. Then when the frames do not hang quite true they “stick together” below, and often two such wide bottom-bars can not be separated. How is it with you, Doctor Miller? I can’t make ’em work here in Texas, and especially in big-scale bee-keeping.

BUCKWHEAT AS A HONEY-PLANT IN TEXAS.

A correspondent wishes to know about buckwheat in Texas for bees. It was given a trial for a period of three years at the Texas Agricultural and Mechanical College and Experiment Station, and as a honey-plant it has not proven of very much value, on account of the dry seasons that prevail in this State for the greater number of years. It thrives well in favorable seasons, and makes rapid growth, maturing to the flowering period in about thirty days. When the weather was favorable the blooming period extended over several weeks, and the bees worked on it industriously. By making successive plantings one month apart it was possible to obtain a succession of bloom for several months in early summer, before the heat was detrimental to its development. The first plantings were made in early April, the second in May, then in June and July. The later plantings generally succumbed to the drouth that usually sets in at that time.

The seed is planted best when drilled in rows just as cotton is planted here in the South. It was found that cultivating it in rows caused a better growth, and the buckwheat lasted longer. Sown broadcast it did not grow so luxuriantly, and soon seeded and died down.

As a honey-plant it did not prove a success, however. First, our seasons are not altogether favorable in too many years. Although it blooms profusely at times, it does not yield nectar. Then, second, the yield is not abundant enough to warrant planting for honey alone. Often the seed does not mature well enough to plant for that purpose. And, lastly, buckwheat honey is dark and of a rank flavor that would not find a place on our Texas markets. It is as dark and strong as some of our cane syrups or molasses, and therefore is not liked here.

WHEN TO REQUEEN.

It is not the best time to requeen in the spring of the year, for the reason that it is almost impossible to judge the right condition of a queen at that time, unless she has been marked the fall before. If a colony does not come up to requirements during the present season and the fall, and the same queen is behind the following spring, then she may be safely replaced. If she has not been kept track of the fall before, it is impossible

to know whether she is a poor one until later in the season. There are too many circumstances under which a queen is kept from doing her full duty in early spring. Her colony simply being weak does not necessarily prove that she is a poor queen. Conditions play a great part in this; the food supply, the condition and age of the bees, and other factors, add to this. Right in line with this is the following from L. B. Smith, of North Texas:

Did you ever notice what a difference there is in the same queen as to prolificness of good and poor years? For instance, I had several of my queens marked as “poor,” and some marked as “very poor.” These I expected to replace at an early date this spring. Now for the result: I have replaced but two or three of those queens, and I shall not replace the others, for they are proving the equal of any queen I ever had in my yards. Now, why this difference? It’s bound to be the season. Last year was very poor for bees through the main breeding season (April and May). This year, as stated elsewhere, is at least a month ahead of the ordinary seasons, and we could not ask for a more favorable time so far for the bees; and should this favorable weather hold on I look for one of the largest honey crops Texas has ever furnished, owing to the fact that bees are *all strong* and well supplied with honey. I have never seen the various honey-plants of this part of the State in a more thrifty and promising condition.

A queen shows her failing best right after the honey-flow is over, and this is the best time to requeen here in the Southwest. It costs very little to do it, and, instead of having weak colonies to go into winter quarters, those with a fall-reared queen in the place of the old worn-out one, will have an extra lot of young worker bees—yes, a rousing colony in fine condition. Such a colony will store a little more fall honey than one having an old queen; and with this additional amount of stores and a great lot of young bees to last well into the next season, great results in the way of surplus honey can be secured, especially since the young queen will not swarm. A colony with an old queen is weaker, and is made up of older bees, since the queen ceased laying earlier.

CONVERSATIONS WITH DOOLITTLE

LOCATION, SECTIONS, AND WIDE FRAMES.

“Say, Mr. Doolittle, do you know the source from which our first pollen comes in this locality—I mean the first which enables the bees to secure great loads of it, and all they want?”

“I think so—don’t you?”

“Well, I just want to tell you what I found. There is a swampy piece of land about a mile southeast of my house, and that warm morning we had a few days ago started the bees out early, almost before sunrise. When I went out I thought they were robbing, as there was such a roar in the bee-yard, but upon looking I found the bees hustling in the hives with great loads of yellowish-green pollen, while the surging in and out of the hive was almost like what it is some mornings during basswood bloom. I took a circuit around the apiary to see where they were going, and found them headed for that swamp. After breakfast I started out; and when I got over there the elm-trees, which compose the timber in the swamp to a very great extent, were just roaring with bees; and where some of the branches came down low I could see the bees at work. I wish you could have been there and seen them.”

“I know they looked beautiful to your eyes.

for I have seen the same things in years gone by during some warm morning the latter part of April or the first of May."

"Indeed they did look beautiful, and it was very reluctantly that I left them. But I want to say a few words about sections and section-holders. Mine annoy me. The section-holders have no top-bars—just ears to hold them up with. In putting in the sections the tops are spread outward; but when the holder full of sections is hung in the super the weight tends always to close the top, thus making the sections remain close together. This seems to make many of the sections diamond shape, so that, when I come to crate them for market, and they are pressed together in the crate, it brings them back square again, thus loosening the combs from two sides, setting the honey to running, and endangering a general breaking-down in shipping."

"The proneness of all but nailed sections to go diamond shape, or fall to pieces entirely, was what lead me to discard the whole business, and use only nailed sections—sections which do not depend upon the honey, comb, and propolis, which the bees put in and upon them to hold them from going to pieces during the shipment of the finished product."

"But don't you have trouble about breakage when shipping to New York or Philadelphia?"

"Very rarely; and when any are broken it is only one or two in a crate. A few years ago a shipment of my honey went to New York on the same car with a shipment of these sections which you are speaking of, both to the same commission man. Two sections in each of three crates out of my shipment were reported as broken, while the other shipment was so broken and smashed that it brought only a little over half the market price. In fact, nearly one-fourth of the honey leaked out before it arrived at the commission man's store."

"But don't you think there might be other reasons for this outcome?"

"Possibly but not probably, as the freight agent told me both were loaded with the same care. Let me give you another case: Two years ago I carted my honey to the railroad station in the auto; and as the springs were so easy I thought it not necessary to take any special pains to prevent its falling off. While on a smooth piece of road I was spinning along when I met a team, and, in turning out, one of the front wheels of the auto dropped into an old rut on the side of the road which was partly covered up so I did not notice it. This threw one of the top crates of honey off, it striking on the front wheel, then falling on the ground in such a way that the wheel struck the top and one corner of the crate, tearing the crate to pieces, and scattering the twenty sections all about over ten or twelve feet of the road. I stopped the auto, saying, as I got off, 'There goes \$3.50 worth of my best honey for my fool driving and fool loading, when, to my surprise, not a single section was broken. I collected the sections together; picked up the crate, and drove on. When I arrived at the railroad I borrowed a hammer and a few nails, remade the crate, and packed the sections in it. It went with the rest, sold for the same price, and the consumer never knew that his nice section honey had been nosing all over the road up here in

Onondaga Co. I would not take either the one-piece or the dovetailed sections as a gift if I could possibly buy the material for the nailed ones."

"But it takes lots of time to nail them."

"I know it takes a little longer to put them together; but this is done during the stormy days of winter; and after they are made they are a source of joy, and something which gives one a freedom from annoyance not possessed by any other section on the market."

"Well, I know that my experience with some of the sections has been very annoying, as well as with the section-holders."

"I think myself that your section-holders are somewhat to blame for your troubles. With properly made wide frames your sections would not go diamond shape, and the sections would be kept clean of propolis."

"With your wide frames, don't the bees varnish the tops of the sections all over with propolis?"

"No; I never could tolerate any thing which allowed the bees to have access to any part of the outside of the section, for where they so have, it takes double the time to clean our product ready for market—time that is the most valuable of any during the whole year, to say nothing of other objections. Wide frames properly made keep the sections nearly as clean and bright when removed, even on their edges, as when put on the hive; while the top and the whole outside looks as clean and new as they did when they first left the saw or sandpapering-machine."

CLIPPING QUEENS WITHOUT HANDLING THEM; CHANGING PLACES TO STOP ROBBING.

Mr. Holtermann told us that we should propolize our fingers before catching a queen to clip her wings, and then change her from one hand into the other. I clip the wings of a queen with small crooked scissors while she is running up the comb. Several times I have found her in the act of looking into a cell, and off would come her wings, and she would look into the next one without knowing any thing had happened to her. I have practiced this plan ever since I started to clip wings of queens.

The plan I use to stop robbing is to change the places of the robbed and the robbing colonies. It works so well that I have never tried to improve upon it. The uproar is twice as bad after the change as before; but the robbing is stopped at once. It is amusing to see those robbers come rushing out with their loads of honey, to find out they had to take it back where they got it and turn around and defend the hive they had been robbing only a moment before. I have followed this plan ever since with good success. ISAAC BALMER.

Burlington, Ont.

[Both plans here spoken of have been mentioned before. Clipping a queen while on the comb was described by Friedman Greiner first in these columns, and then in the A B C and X Y Z of Bee Culture. The scheme of exchanging places of the robbing and robbed colony was described by A. I. Root in the first editions of the above-mentioned work. But even if these ideas are old they are good.—ED.]

GENERAL CORRESPONDENCE

COMB AND EXTRACTED HONEY PRODUCED IN THE SAME SUPER A LA TOWNSEND.

A Modification of the Split-section Plan.

BY R. R. FOSLER.

I wish to make a few remarks on articles which have appeared in GLEANINGS.

In Fig. 1 are several sections of bait combs partially drawn out from foundation put in by the Hand method in split sections. As you will notice, the foundation does not extend down to the lower end, as the foundation used was only $3\frac{3}{4}$ in. wide instead of 5. I am in favor of this method in several ways: first, the combs are fastened to the sections better than in any way I have tried before. The few sections that I experimented with were not put in wide frames with top-bars as Mr. H. advises, but in common section-holders with simply the bottom and the ends. In this way the bees gnaw the edge of the foundation that projects through the wood at the top of the section, leaving it somewhat below the surface of the wood. In this crack the bees deposit small quantities of propolis, completely hiding the wax. After the sections are taken out and scraped it is almost

impossible to tell that there ever was any foundation there. The only objection I can see to this method is the buckling. These sections that I was experimenting with buckled slightly, but the photo does not show it.

Fig. 2 shows some finished sections with top and bottom starters. These are not filled out quite as perfectly as they might be, but were taken off as soon as capped over, which accounts for that. These were obtained by the plan of producing both comb and extracted honey in the same super, which Mr. Townsend described on page 776, June 1, last year. I consider this the best article that has appeared in GLEANINGS for some time. I tried the matter thoroughly, and am convinced that I have tried nothing better.

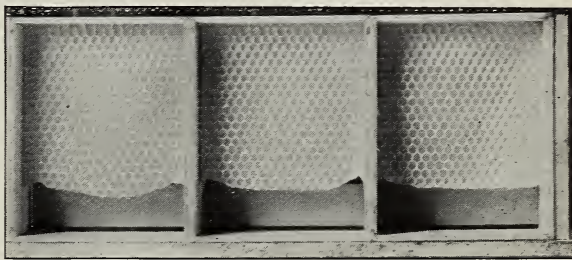


FIG. 1.—SPLIT SECTIONS CONTAINING FOUNDATION PARTLY DRAWN.

I also tried this on weak colonies that were not strong enough to work in comb-honey supers without the extracting-combs for baits. Shortly after this super was put on, the bees were found working on the extracting-combs at

the side of the super, and then when work was started in the sections it was started at each side instead of at the center; and, as a result, they were nearly all finished at the same time.

Milford, Neb.

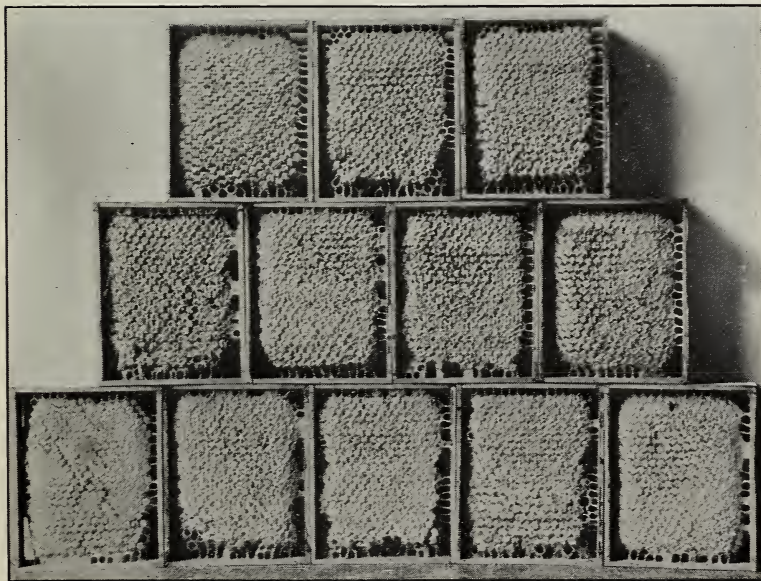


FIG. 2.—HONEY PRODUCED IN A SUPER WITH EXTRACTING-COMBS AT THE SIDES.

This honey was removed as soon as capped, which accounts for the fact that the sections were not filled clear to the sides.

[The plan of producing comb and extracted honey in the same super, we are sure is all right, as we have tried something very similar. In the case of colonies slow about going into the supers, it is especially good.

We are not sure but that section-holder may be better



MEMBERS OF THE SOUTH IDAHO AND EAST OREGON BEE-KEEPERS' ASSOCIATION.

for split sections, in that they eliminate partially one objection—namely, the unfinished and man made look of the foundation projecting up through the wood at the top of the section. Has any one else any experience to offer on this point?—ED.]

SOUTH IDAHO AND EAST OREGON BEE-KEEPERS' ASSOCIATION.

The Problem of Educating the Farmers Concerning the Proper Time for Cutting Alfalfa.

BY A. E. GIPSON.

The South Idaho and East Oregon Bee-keepers' Association was organized four years ago at Parma, Ida., and is composed of representative bee-keepers of the sections of the two States named. The objects of the association are to bring about a coöperation among the honey-producers in all matters pertaining to that industry, and especially in buying supplies and in marketing the products of the apiaries.

In view of the high quality of the honey of this region, members of the association are coming to realize more fully each year the importance of placing it on the market in the best possible shape and so the matter of marketing is receiving a good deal of attention. This fact was shown at the last annual meeting of the organization, when the discussion of this subject was given so much prominence.

The great strides that are being made in irrigation enterprise in Southern Idaho, by means of which hundreds of thousands of acres of fertile land are being opened up, with alfalfa as a leader in crop rotation, reflects the future of bee-keep-

ing here. This great forage-plant is the main reliance of the honey-gatherers, and bee-men are directing their efforts toward securing as long a blooming season as possible for the benefit of the little workers. To this end they are trying to educate the farmers up to the point of not cutting the alfalfa crop too soon after it begins to bloom. The contention is that it is not only better for the bees, but for the nutritive value of the plant as a stock ration, to permit a pretty full blossoming before each cutting is made.

Fortunately the association has a membership composed largely of men of wide experience in the apiary. Some of them, furthermore, have national reputations.

E. F. Atwater, for example, is not only a successful man as a commercial bee-keeper, but is widely known as a writer and expert on matters pertaining to the industry.

G. J. Yoder is another careful and exceedingly well-informed man, and likewise a veteran in the business. Both of these men are known to many readers of GLEANINGS by reason of their demonstrations and valuable observations.

Other prominent members are F. A. Powers, F. R. Fouch, J. E. Lyon, Will Pennington, Ben Paine, H. C. Dudley, A. I. McClanahan, R. D. Bradshaw, T. A. Waale, John A. West, and Mrs. A. J. Mitchell. These, and others who could be named, are making local history for the bee industry that must count in the development of that industry in all this region of country.

The last annual meeting was well attended, and was of exceptional interest. The *Gem State Rural* says that from 3500 to 4000 colonies of bees were represented, and that the Boise Valley, Ida., alone marketed about seven cars of honey during the year 1907.

A committee was appointed, consisting of E.

F. Atwater, F. R. Fouch, R. H. Bradshaw, and Will Pennington to look up markets and suggest prices for the present year's crop.

The officers elected for the ensuing year were, J. E. Lyon, President, Boise; Ben Paine, Vice-President, Roswell; E. F. Atwater, Secretary and Treasurer, Meridian; F. A. Powers, Parma; R. A. Bradshaw, Payette.

Caldwell, Idaho.

A PROMISING YOUNG HELPER IN THE APIARY.

BY C. RANEY.

The engraving shows my niece, who is my only help in handling bees. Though but nine years old, she seems to have the bees charmed in some way, for she uses neither veil nor gloves, and never gets stung. The two hives in the picture belong to her. They were in fine shape for winter, weighing 200 lbs. each. Both were swarms hived last June. We took 75 finished sections from them last season.

Our principal honey crop in middle Tennessee is from the white and sweet clover.

Petersburg, Tenn.

BEESWAX IN THE ARTS.

Sulphuric Acid Makes Wax Unfit for Certain Manufacturing Purposes.

BY J. L. BYER.

The average bee-keeper has a very faint conception as to the various uses to which pure beeswax is put at the present time. As a matter of fact, the use of beeswax in the different manufacturing industries is increasing very fast; and if this were not the case it is quite certain that the price of this important product of the hive would be much lower than at present, which price, by the way, is none too high to say the least. During the last eight years I have marketed something over 3000 lbs. of beeswax, and yet it was only this winter that I found the various uses to which the wax is put, of which I previously had had no idea. Some time in December the manufacturers of a certain line of paper wrote me saying that my name had been given them as one likely to supply them with pure beeswax, and they asked me to quote prices and send sample for trial. In reply I stated that we had such confidence that our wax would prove satisfactory that we would forward 100 pounds; and if it did not prove to be satisfactory they could return it at our expense. They were told that the wax was rendered from old combs, was free of dirt, but only ordinary in color. Incidentally, I stated that, by remelting and clarifying with sulphuric

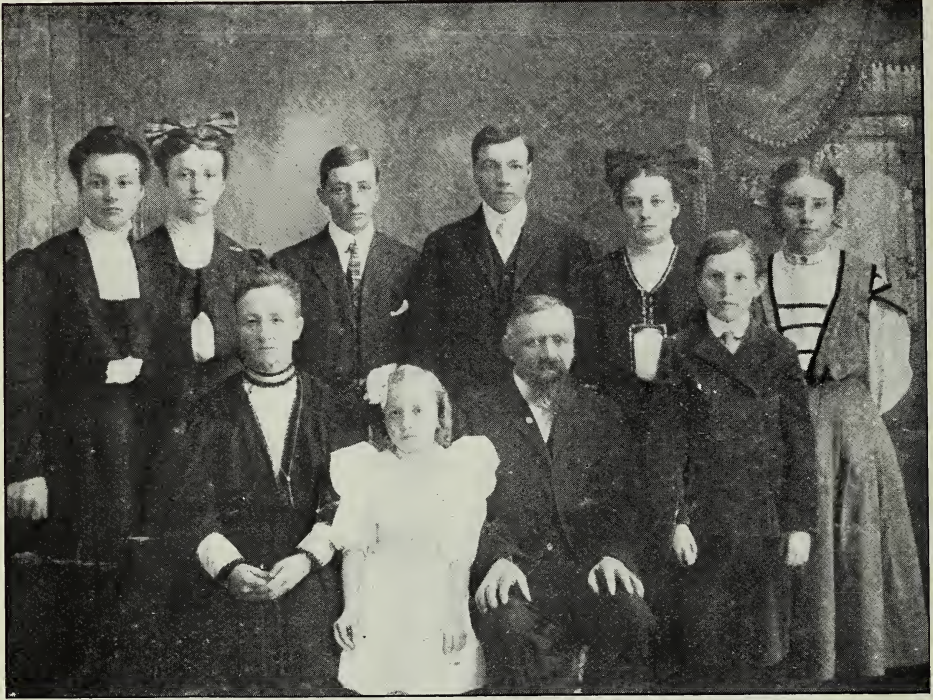
acid, the color would be improved; but I would not recommend this treatment, as I considered it a waste of time, and there was also a danger of overheating, and possibly destroying more or less the ductility of the wax.

On receipt of my letter they wrote me saying that, if any sulphuric acid had been used in rendering my wax, it would positively be useless for me to send even a sample. They were emphatic in the matter, and it was of the *greatest importance* to them to be certain that not the slightest trace of acid be present in any beeswax they purchased. In the end a five-pound cake was sent as a sample, and in the course of ten days a substantial order was received. Only a few days ago the manager of the factory told me that the wax gave entire satisfaction. However, the attitude of this firm



WINNIE C. MUSE, A YOUNG HELPER IN THE APIARY WHO USES NEITHER VEIL NOR GLOVES.

led me to do some investigating, and I find that a large number of dealers and manufacturers are under the impression that, for certain uses, the addition of sulphuric acid in rendering wax is harmful to the finished product. Whether this claim is well founded or not is not for me to say; but one fact was undisputably brought out by my inquiries, and that is, for *some* reason a large quantity of beeswax is being put on the market



D. DANIELSEN AND FAMILY, OF BRUSH, COL.

Mr. Danielson writes that his family consumes 60 lbs. of extracted honey every month—720 lbs. a year, on the average. This picture is not a poor testimonial as to the food value of honey.

that is entirely useless for certain manufacturing purposes. As intimated, rightly or wrongly, quite a number are putting the blame on sulphuric acid, and it is up to the bee-keepers to find out if their claim is correct or not.

Of course, it is generally assumed that *all* the sulphuric acid settles with the water at the bottom of the cakes of wax; but that such is not the case was fully proven to the writer and some others by a little incident that occurred last summer. A friend bought a lot of beautiful wax that had been clarified with sulphuric acid. The wax was remelted and run into tart-tins, and the small cakes were sold at fairs. These tins, after the wax was taken out, were covered with a greasy coating, and my friend was telling me only a few days ago that, up to the present, they had found no way of cleaning that coating from the tins. No doubt that, in this case, an excess of the acid had been used; but the case serves as an illustration as to what might happen any time if no exact formula was observed.

The manager of one of the departments of a manufacturing firm in New York State told me that they use thousands of pounds of beeswax, and at present know of no substitute to take its place. They had experienced considerable annoyance and loss by getting a lot of wax that would not work right, and now they would buy only after having found the sample satisfactory, and following shipments had to be guaranteed the same as sample.

This man was inclined to think that some of the wax was overheated in modern presses used, and the ductility, or (as he expressed it) the "life" was taken out of it. At least one extensive dealer in painters' and artists' supplies in the city of Toronto stipulates in all his contracts for wax that no sulphuric acid be used in the rendering of the same.

In submitting these statements it is not my intention to raise a false alarm; but to my mind the question is a very important one, and it seems to me that the opinions of the dealers and manufacturers are entitled to some consideration. That, as before stated, a lot of unsatisfactory wax is being put on the market, there is no question, but to decide just what is the cause of this state of affairs is another proposition. That a number of our best bee-keepers use the sulphuric acid does not necessarily prove the wisdom of that course. In all the wax I have rendered, only once did I use the acid, and yet I have never had a single complaint from those who have bought my wax. That the acid does not injure the wax for foundation purposes is self-evident from the fact that thousands of pounds of such wax is used annually for that purpose. But in the making of foundation the wax undergoes different processes than is the case in other uses to which the beeswax is put.

Would it not be wise for the bee-keeper to dispense with sulphuric acid? then if the foundation-maker wishes or finds it necessary to add the acid, let him do so.

It is a subject I should like to see made the object of scientific research, so that we may definitely know the cause of so much inferior wax being produced. We may rest assured that, if the manufacturers continue to get much of this poor wax, science and invention will speedily come to the rescue, and we shall find our product supplanted by something else.

Mt. Joy, Ontario, Can.

EXTENSIVE HONEY-CONSUMERS IN COLORADO.

Honey from Alfalfa.

BY DANIEL DANIELSEN.

We have just had a picture of our family taken. You see we thrive well on honey and other good things. We consume 60 lbs. of extracted alfalfa honey every month in the year, besides a little comb honey. I began bee-keeping in 1891 in South Dakota; moved to Colorado in 1902, and have now about 130 colonies. Bees wintered well so far; but the trouble here is in the spring. There is no nectar for the bees until alfalfa comes. I wish there were some plant that would yield honey in May.

Brush, Col., Jan. 31, 1908.

BEE-KEEPING IN TEXAS.

Battling Against Ants, and Competing with the Mexican Strained Honey; Some of the Sources of Honey.

BY S. M. CAMPBELL.

Bees in this part of the country make a little honey nearly the year round. Mesquite is the main honey-plant, and it generally blooms twice a year. The first crop of mesquite blooms in March; then these blossoms are shed, and in June the main crop comes; and, unless there is a big rain, it will last about four weeks. The ebony blooms several times a year (every time it rains), but it stays in bloom only three or four days at a time. During this time, however, it looks like

a bank of snow. The honey has an amber color and a very good flavor.

Tanassa blooms after every rain, but lasts only a few days each time; the blossom is like button-willow, but is not half as large.

The catclaw makes a very white honey, with a fine flavor. The huajilla (or guajilla, as some prefer to spell it) has a bunch of round ball-like blossoms, and, like button-willow, makes a white honey and fine flavor.

What this country lacks is moisture. Long intervals sometimes occur from one rain to another. About fifteen years ago it did not rain for eighteen months enough to wet a man in his shirtsleeves. All the creeks and lakes went dry except the Rio Grande River.

The photograph of my apiary does not show all the hives. The yard contains ninety-six hives in two long rows facing the east. The trees are of several different kinds. The one nearest the cactus is mesquite. The others, named in order, are ebony, nocaway, ebony, and nocaway. The hives are shaded all the way along by these trees. At the lower end, not shown, a hackberry-tree has 25 hives under it.

The bees are half Mexican and half Italian. I had a very fine Italian queen—the finest I ever owned. Her daughters were mated to black Mexican drones. These are said to be very cross, but my bees are the gentlest I ever worked with.

The reason the hives are set upon the long benches is on account of the ants, which are very numerous in the Southwest. There are several different kinds. The worst of them all is a little sugar-ant. I managed to kill them by using 16 gallons of kerosene. I would find their nest and dig a hole about the size of a common washpan, and pour in about a quart of kerosene. That would be the end of that nest. Sometimes it would take about five gallons to destroy all of the nests.

I worked up a nice honey trade in Brownsville, although it was a Mexican town. The people had been buying honey from the Mexicans for 50 cents a gallon, squeezed out by hand, including, of course, the bee-bread and young bees. The package used mostly was beer-bottles; and when the honey had set a while the neck of the



A TEXAS APIARY UNDER MESQUITE AND EBONY TREES.



J. S. YODER'S BEE AND HONEY EXHIBIT AT THE VIRGINIA STATE FAIR, HELD AT ROANOKE, SEPT. 24-27, 1907.

bottle would be full of bee-bread and scum that would rise to the top. When I began selling my honey I put it up in glass Mason jars, from a pint to half a gallon, with a nice label on it. When I first went to the houses to sell the honey the people would ask the price, and I would tell them. Then they would say they could get honey from the Mexicans cheaper. But I nearly always made a sale before I left, for I told them how the Mexicans squeezed out the honey by hand, and explained the difference. It wasn't long before I could sell honey by the 60-lb. can to customers who began buying by the half-gallon.

Taft, Texas.

A GOOD SURPLUS FROM A WEAK COLONY.

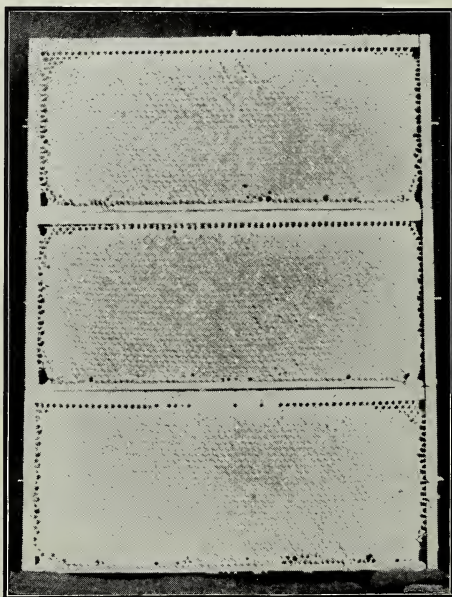
Some Well-filled Frames.

BY WELCH BIBBEE.

Here is a picture of three Danzenbaker frames of honey taken off July 2, 1907. These are the nearest perfect of any that I have ever seen. They were produced by a colony that I thought was almost worthless—in fact, the hive-body was almost rotten, and I had intended to transfer the bees to a Danzenbaker hive; but the spring was so cold and backward that I just took the lid off the old hive and set the Danzenbaker hive on top, and thought that, as soon as they showed signs of being strong enough to transfer, I would put them in the new hive. Probably I did not watch them closely enough, for on July 2 I found that the ten frames were full, with brood in three frames. I took out five frames and put empty ones in their places; and as the colony was doing so well I put a super of 32 sections on

the old hive, and this Danzenbaker body on top of the sections. On the 13th I found the sections full and capped nicely, so you see the bees got busy. The flow of honey from July 1, to 15 was the largest I remember, and it was all from white clover.

Cottageville, W. Va., Aug. 12, 1907.



DANZENBAKER FRAMES WELL FILLED WITH WHITE-CLOVER HONEY.

A PRIZE BEE AND HONEY EXHIBIT AT THE VIRGINIA STATE FAIR.

An Engineer and Bee-keeper.

BY J. S. YODER.

My exhibit of honey at the Virginia State Fair is shown in the engraving. I had four premium cards attached—one for best display of bees; one for best display of honey; one for best display of comb honey; one for best display of extracted honey. I feel proud of my first exhibit, as this is my third year with bees. I started with four hives of bees in eight-frame Dovetailed hives, and now have forty colonies in good condition.

Roanoke, Va., Feb. 12, 1908.

A BEE-SHED FOR SHADE.

BY W. O. STEVENS.

The bee-shed in the picture was built simply for the purpose of keeping off the sun and rain, as I winter my bees in the cellar. They are taken from the cellar about the first or middle of April, and they usually begin to gather pollen about the middle of the month from willow and poplar.

I have sold all of the honey I have been able to produce, for 25 cts. per lb., in the villages near by, both extracted and comb. Bee-keeping is not carried on around here to any great extent. South Paris, Maine.

CUTTING BEE-TREES IN WINTER.

BY E. L. MINER.

The engraving shows a large red-oak bee-tree, measuring 17 ft. in circumference, which was cut Jan. 7, 1908, in Wayne, Ashtabula Co., O. A



A BEE-TREE 17 FEET IN CIRCUMFERENCE CUT IN MID-WINTER.

large swarm of three-banded Italians was captured, although the thermometer stood at 15° above zero, and it was snowing at the time.

There was no brood at all in the combs, and only about 10 lbs. of honey, all basswood, although neighbors say bees had lived in the tree for ten years or more.

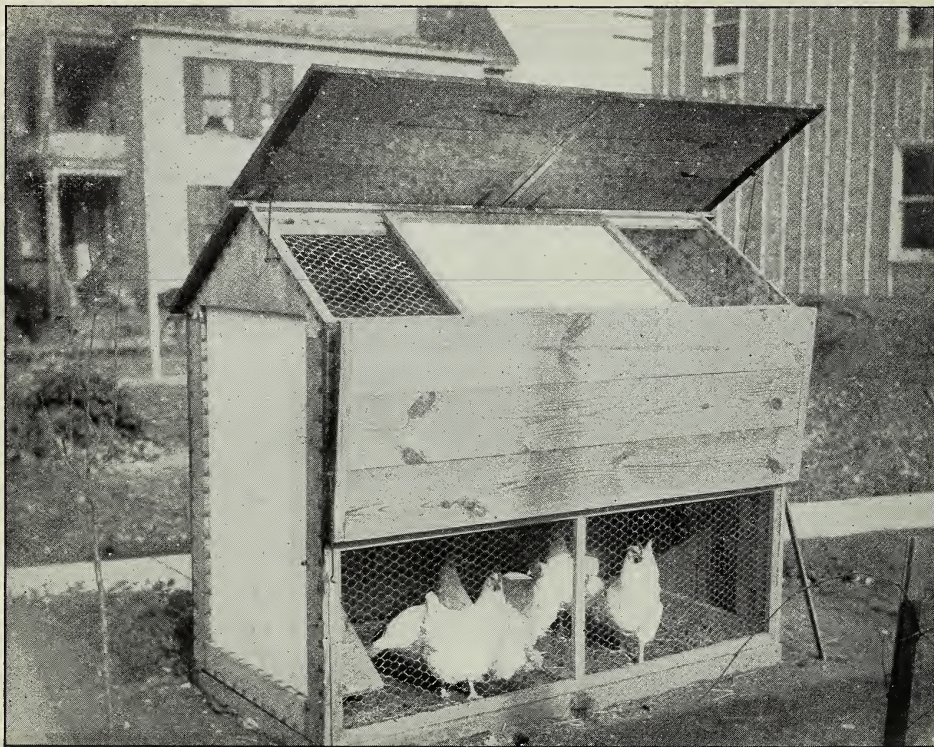
I did not transfer the combs to a hive, but brushed the bees off the combs into a box prepared with cushions in advance. The bees were surrounded with dry rotten wood, and did not get chilled in transferring, as we took them out of the tree by the handfuls.

I had two hives containing large swarms in double brood-chambers, with lots of honey in the combs; and on returning home I transferred the bees from box to the lower



A SHED APIARY IN MAINE.

The shed is used only as a shelter in the summer from the sun, wind, and rain. The colonies are wintered in a cellar.



HOW TO KEEP POULTRY IN TOWN OR CITY WITHOUT ANNOYING THE NEIGHBORS. SEE P. 647

story of the double hive, first removing it from the top story in which the swarm was clustered. I saw the queen in transferring to the hive, which was done in a warm room.

Williamsfield, O.

EXTRACTED-HONEY PRODUCTION.

The Locality and Methods Whereby Large Quantities of a Superior Article may be Secured in a Leisurely Fashion at a Low Cost; How to Control Swarming with a Minimum of Labor.

BY W. Z. HUTCHINSON.

Continued from last issue.

[The second installment of this series is particularly seasonable and valuable, and we hope every extracted-honey producer will give it a careful reading. The scheme of having combs enough for the season, and extract *after* the honey-flow at our leisure, while not new is attractive, because it enables one to control swarming, and at the same time perform all the labor himself. When one considers that hired help is often wasteful and incompetent, and good help hard and sometimes impossible to get (worse yet, the cost of the help will, not infrequently, *absorb all the profit*), this plan looks good, to say the least. The whole thing is told so simply and clearly that any one can take it in easily.—Ed.]

I would not advise any one to pull up stakes, leave his present location, and move to Northern Michigan without first going there in person, and investigating. To go there and establish a home and an apiary, or a series of them, will require a

lot of enthusiasm and grit, patience and perseverance, and time and money. If I had not had a fair stock of the first two I would never have attempted it.

However, I am happy to say that the success of my plan is not dependent upon a location in the raspberry region. It will work equally well in a clover region, but the clover is much more uncertain—likely to winter-kill, or the nectar secretion may be wiped out by drouth, rain, or cold weather.

THE PLAN IN A NUTSHELL; HOW ONE MAN CAN LOOK AFTER FIVE OR SIX APIARIES, EVEN DURING THE HONEY-FLOW.

I will first briefly outline the plan; then, as I go back and give details, the reader can the more readily see the "reasons why." In the first place there must be an abundance of empty combs and supers—enough *to hold all of a possible crop*—so that the bee-keeper can put on supers of comb at any time with no hesitancy—just as though the supply were limitless. Of course, these combs and supers cost something; but they have to be bought only once, so that their real cost is only the interest on the money. There is no attempt whatever to extract the honey during the harvest. All of this hustle and bustle and hurry and worry to extract in time to give the bees room during the harvest is done away with. If a colony or a whole apiary needs more room, simply give more supers of comb. This is a quick operation. One

man could look after five or six apiaries, even during the honey-flow, if all he had to do was to put on supers when they were needed, while one apiary would keep him busy if he had to extract the honey to give the bees room. If the hives, or some of them, become piled up too high, it is an easy matter to remove some of the top supers by the use of bee-escapes, and store the supers of honey in the bee-cellar—there is no need to extract at the time of removal unless there is plenty of time for doing the work.

After the harvest is over, comes the work of extracting; but there is no hurry about it; there are probably two months in which to do the work. The honey is all on the hives unless some of it has been removed, as suggested, when that which has been removed should be extracted first. That which is on the hives is not only safe but daily improving in quality. Without the invention of the bee-escape this plan would not be feasible. It is not practical to remove honey and brush off the bees after the close of the harvest; but by the proper use of the bee-escape the whole crop can be taken off with no commotion, no stinging, no robbing, and safely landed in the honey-house without a bee in the yard fairly realizing what has been taking place.

The bee-escape is an important link in this chain; but there is another one equally important, and that is, the use of artificial heat in warming the honey so that it can be extracted when taken off late in the season by the use of escapes. Honey left on the hive all the season becomes well ripened and thick, and the cool weather makes it still thicker and stiffer; and it would be difficult to extract if the work were done immediately upon its removal. If taken off in large quantities by the use of escapes it would be simply impossible to extract it without warming it up. When it is properly warmed up to the right degree it can be extracted more readily, easier, and cleaner than when taken right from the bees in hot weather. As such honey is thoroughly ripened, there is no necessity for any settling-tanks; the honey can be run right from the strainer into the cans or barrels.

Perhaps this system of management might be called the *gentleman's* system. It certainly is an easy, pleasurable, leisurely way of producing large quantities of first-class honey at a low cost. There is no hurry, hurry, hurry to get the honey extracted because the bees are needing more room; and there is no shaking and brushing of angry bees out in the boiling sun.

ONE DRAWBACK TO THE PLAN.

There is just one kind of locality where this plan will not work out so satisfactorily, and that is where the white-honey harvest is followed by a dark flow. We have one apiary in such a location—one where the flow from buckwheat is likely to start in before that from the berries is finished, and we have to watch it very closely and hustle off the white honey the very day that the bees show a tendency to begin work on the buckwheat. It does not take very much dark honey to give some color to a whole lot of white honey. Work it the best we can, there will always be some berry honey not ready to extract, and we are compelled to leave it on the hives to go in with the buckwheat. A fall flow of honey, even if dark, is considered a great advantage, and usu-

ally it is, but I am not certain but I should prefer a locality without the fall flow, simply because it would allow me to put in practice my system of management whereby I could take care of so many more apiaries than with the management that requires the removal of the white honey before the close of the harvest.

Having gone briefly over the plan, and shown that the principal features of the combination are plenty of combs and supers, and the use of bee-escapes and artificial heat in extracting, let's go back to the beginning of the season and take up the work, step by step, and give the more important details.

SECURING WORKERS FOR THE HARVEST.

When taken from the cellar, the stores of the colonies are equalized and the hives protected by being wrapped in tarred felt. No more attention is required until it is warm enough to remove the tarred felt. More equalization of stores may be needed, or, if there is a general shortage, some feeding; and it is almost certain that there must be more or less equalization of brood before the opening of the harvest. In a home apiary this equalizing of the brood might not be necessary, but in an out-apiary it goes a long way toward preventing swarming too early, by some of the colonies, and helps to make all of the colonies ready for the same treatment at the same time—a most important factor in out-apiary management.

When all of the hives are comfortably full of bees, brood, and stores, upper stories of combs are added, one on each colony strong enough to need it. No queen-excluder is used at this time. The queen is allowed full swing in both stories, and this abundance of room at this time has a great tendency to forestall the swarming fever. Once the main harvest is on, and the bees at work in two or three stories, the great danger of swarming is past. In an apiary of 150 colonies, managed last year on this plan, only 7 cast swarms.

When the upper story is nicely filled, or nearly filled, with bees, brood, and stores, and the main harvest has fairly begun, a queen-excluder is placed between the two stories. No time is spent in hunting up the queens. We simply wait four or five days, when freshly laid eggs disclose the presence of the queen. As a rule she will be found in the upper story; if so, we simply transpose the two stories, putting the upper one below with the queen-excluder on top, and then set on top what was formerly the lower story. Usually, at this visit most of the colonies will be ready for the third story.

This plan gives the greatest opportunity for the production of a lot of bees previous to the harvest, then curtails the rearing of brood after the harvest has opened, when the production of brood is at the expense of the surplus. As the bees hatch from the combs above the queen-excluder, the cells are at once filled with honey. Many of the colonies will build queen-cells in the supers above the queen-excluder. I have taken pains to go through the supers and tear out these cells, and I have paid no attention to them and allowed the queens to go on and hatch, and I could not see that any harm resulted from either course—that is, there did not seem to be any difference.

As the season advances I keep on tiering up, adding the empty supers at the bottom, next to

the brood-nest. I have often tiered them up three supers high, and, in a few instances, four supers high, with ten-frame Langstroth hives. At such times I have longed for some sort of hive-lifter, and I expect to try one this season.

One object in adding the empty combs at the bottom, and keeping the oldest, ripest honey at the top, is that, if it should be desirable at any time to remove any of the supers of honey, either to extract the honey at once, or because the hive was becoming piled too high, the oldest honey would always be on top, where it could be removed the most readily by the use of bee-escapes.

To be continued.

MANAGEMENT PREVIOUS TO THE HONEY-FLOW TO PREVENT SWARMS.

Increasing the Amount of Brood Produced Just Before and During the White-honey Flow.

BY E. D. TOWNSEND.

THE CHAPMAN PLAN.

For preventing swarming and for increasing the amount of brood produced previous to and during the fore part of the white-honey flow, Mr. S. D. Chapman, of Mancelona, Michigan, has a system of his own. He uses eight-frame hives, and the system is about as follows: At the approach of the warm period, which is usually near May 20, in this locality, he shakes the bees from two frames of brood, placing these two brood-frames without the bees in an upper story, taking out two empty combs from the upper story to replace those just removed from the lower story. He now puts a queen-excluder on the first story and the second story over it. This gives the queen in the lower story two extra combs to use for breeding purposes; and if there is young brood in the two combs placed in the upper story, this extra space in the two combs amounts to considerable. In a week or two, two more frames of brood are lifted up into another or third upper story, making a three-story hive. This method of lifting brood from the brood-nest into upper stories is continued until it is desirable to curtail brood production on account of the bees not maturing in time to be honey-gatherers.

During 1906 Mr. Chapman lifted brood according to this plan in three-fourths of an out-yard, when it turned cold and a strong northwest wind came up. On the colonies in the remaining fourth of the yard he put on the upper stories, but placed in them no brood. These last colonies were as good as the average of the yard. Shortly after the beginning of the raspberry flow he found that those colonies in the three-fourths of the yard, where brood had been placed in the upper stories, had from fifteen to twenty pounds of honey to their credit, and this gain remained throughout the season.

By following this plan, whole yards of bees have been worked for extracted honey through the whole season, without a single swarm issuing. It can be seen that powerful colonies need more room during the period just before and during the fore part of the white-honey flow than is provided in the ordinary hive in use to-day, and the

above plan shows at least one method that may be employed with regular hives to provide this extra room at a time when it is necessary. Of course, when this time is past, the hive is brought back again to its normal size.

In the fall of the year 1906, during the early part of the buckwheat flow, our Pine Lake yard of 100 colonies was left without upper stories until the hives were crammed full of this early buckwheat honey for winter stores. At this time some of the most advanced colonies built comb and stored honey on the outside of the hives, and some of them must have had as much as 35 pounds of honey in the hive when they went into winter quarters. This was more honey than we were in the habit of leaving, and was even more than a ten-frame hive could hold and still leave room for the colony to breed up in the spring. The consequences were that, when the upper stories were given in May, 1907, before the honey season opened, these bees in the Pine Lake yard carried a few pounds of this buckwheat honey in the brood-nest into the upper story to make room for the queen below, with the result that, when the honey was extracted, it was amber in color and had to be sold for one cent a pound less than the rest, which contained no dark honey. This is the only case of the kind that has come to my notice, and even this would not have happened under normal circumstances.

When I first began to produce extracted honey the plan then in vogue was to lift a frame of brood into the upper story to start the bees to work there immediately. While this was successful so far as getting the bees to work in the supers was concerned, yet it was a noticeable fact that the honey produced by this plan was never quite as good in color as when no brood was lifted above. I soon learned that it is not necessary to lift brood above to get the bees to working in the supers, drawn combs being found sufficient. Now, in lifting this frame of brood into the upper story there was always more or less honey from the previous season lifted with it, which honey was often gathered from buckwheat. This brought about the same result as that outlined above, and the off grade of honey being not to my liking the system was abandoned. This is the worst feature about the Chapman system, for the old honey that is likely to be lifted up with the brood causes all the honey to be of a somewhat darker color and perhaps of a poorer quality.

THE COVEYOU PLAN.

Mr. E. E. Coveyou, of Petoskey, Michigan, has a very good plan for handling his bees during the fore part of the honey-flow. He uses ten-frame hives, and before the honey-flow he gives the colonies another story of combs without putting an excluder between. The cells of these combs should be of the worker size, for the queen is allowed full sway through this story until the colony needs a first one. At the time this third story is given, the queen is placed below in the first story, a queen-excluder is put on, and then the third story of empty combs put over it. Finally, on top of all, the second story partly full of honey and brood is added. This plan has the advantage of giving the colony an abundance of comb room and also an unlimited amount of breeding-space for the queen during the critical swarming period previous to the hon-

ey-flow. This is one of the best systems I have heard of to be used for this purpose in connection with the queen-excluder, for, aside from the advantage gained by allowing the queen unlimited breeding-room during the early part of the season, all of the advantages of the excluder are secured in extracting-time, for the brood lifted above with the second story will all be hatched and the combs filled with honey long before extracting-time, for Mr. Coveyou does not extract until late in August—perhaps 30 days after the close of the raspberry flow.

Before putting on any upper stories Mr. Coveyou clips his queens, for he works three yards practically alone with the exception of extra help made use of at extracting-time, or when some extra work is to be done. By having his queens clipped, and by being with the bees every day during the swarming or honey season, he can have any swarms that may issue. It is obvious that, if the queens had not been clipped, the swarms would have gone to the woods and been lost. If a swarm should issue when he is working at some other yard, and returns to the hive, he is very likely to reach this yard by the next day; and when they come out again, as they almost assuredly will, he can have them.

PUTTING ON EXTRA SUPERS.

Knowing by experience that bees will enter upper stories without any hesitancy when placed on top of the hive or on top of any story that may be already on the hive, and as our extracting is not done until after the white-honey season is over, we have no lifting of full stories except at extracting-time. We put on the third story, when the second one is about two-thirds full, or at least before all the empty comb-room is used. However, no set rule can be given as to the proper time for putting on extra supers, as there is a difference in the colonies in this respect. Some bees will work in a few combs and begin to cap those started first, while those combs at the outside of the super will not be in use at all. In such a case it would be folly to put on another super as long as this condition continues. Other colonies will fill every available cell with honey before commencing to draw out the combs or to cap the cells. Such a colony will need more extra comb-room than the one first mentioned, for in the first case the bees seem to be more adapted to working wax and drawing out combs. It is well to humor these dispositions, and not compel the bees mentioned in the last case to draw out the combs to the full capacity of the space allowed. They should, instead, be given additional comb-room as they are able to use it, and they will store much more honey than if compelled against their will to draw out cells to the full depth at once.

At extracting-time, if one wishes to make two grades of his extracted honey all of the partly filled and unsealed combs will be in the top stories if the plan just outlined is followed, and these can then be taken off and extracted by themselves. I believe this to be the ideal way, for the first-given supers are filled out more fully and capped more evenly than if they were lifted up and the empty one placed beneath them next to the brood-chamber. Then with this latter plan of lifting the full supers up and putting the empty supers next to the hive one is likely to

give additional room faster than the bees really need it, with the result that the honey is capped over when the combs are thin, and even when some of the outside combs may not be entirely finished.

Putting empty stories on top is probably the only practical way to manage when a queen excluder is not used between the hive and the supers. If the extra supers are added intelligently when the season is near the end, by giving the colony only what storage room it will need, the queen will thus be crowded down into the hive below, leaving the supers nearly free from brood. In order to follow this method one should bear in mind that it is part of the system, in that the amount of brood in the upper story is to be curtailed toward the close of the season, as explained, and then the honey left on the hive a week or two after the close of the season, to allow it to cure thoroughly. Incidentally, the brood that may be left in the upper stories has thus hatched out before extracting.

The old orthodox plan of placing the empty super above the queen-excluder and under the partly filled one is still practiced by the majority of Michigan bee-keepers; and when the first one is about two-thirds full it is lifted up and an empty one placed beneath. This plan is continued clear through the season, the advantage claimed for this system of extra work being that, by lifting up the full stories and placing the empty ones next to the brood-chamber, the bees are stimulated to greater activity by this dividing of the hive when placing the empty combs next to the brood-chamber. Now, while I admit that it may be advisable to put an empty *comb-honey* super next to the brood-chamber, after a long experience I fail to see where the advantage is in the production of *extracted* honey, and where there is any gain in lifting up heavy upper stories during the honey season, especially when the extracting is all done at one time.

THE USE OF AN EXCLUDER TO PREVENT BROOD IN THE SUPERS, AND HOW BY THEM A WHITER HONEY IS SECURED.

Before leaving this subject I would say that, if one does much extracting during the honey-flow, or in the case of a beginner who has had but little experience, I would advise the use of an excluder, for there must be no unsealed brood in the extracting-combs or the honey obtained will not be of good quality. The very sight of these young grubs floating on top of the honey would be enough to condemn the plan of trying to manage without an excluder. If a visitor should happen to come in, those grubs would, of course, be called worms, and it would not help the sale if it should get out that the honey is "wormy." Then there is the food provided for the larvae, some of which is thrown out with the honey, and this surely makes the honey of a poorer quality. My advice, therefore, is to use an excluder under such circumstances until you learn a better way.

Remus, Mich.

[Since it takes considerable skill to produce extracted honey without excluders, any one who has not worked out a successful system for keeping the queens down had better use the excluders to be on the safe side. It is not often that a queen gives much trouble by going into comb-honey supers.—ED.]

SOME QUESTIONS I AM ASKED.

Do Weak Colonies have Good Queens? When to Requeen; Attitude of Farmers toward Bees.

BY E. W. ALEXANDER.

Mr. D. T. Gaster, of Randleman, N. C., wishes me to answer through GLEANINGS the following question: "After weak colonies are built up in the spring, according to your plan, do they usually do as well as other colonies, or should their queens be superseded?"

In answer I will say that I have never had occasion to supersede them oftener than other queens. With us all queens, when two years old, are superseded unless it should be a very choice one. We usually supersede queens for one of two reasons—either on account of their arriving at the age limit, or when we buy bees, as we sometimes do, they have queens of all ages and colors; then we supersede them as soon as possible, and in their place introduce good well-bred Italian queens.

I am often asked if it is not as well or better to buy our queens in the fall, at a reduced price, than to buy them in early summer. That depends wholly on the condition our colonies are in. If the old queen is failing to keep her hive well filled with brood without any apparent cause, then we supersede her in early summer; for if she is kept until fall the colony will have but little brood, will be weak in bees, and the young queen we give them will start so little brood that the chances are the colony will be dead in the spring, or so weak in bees that it will be almost worthless. But if the queens we wish to supersede are in full strong colonies, with their hives well filled with brood, then to buy queens in the fall for these colonies is all right; and if the new queen does not start much brood she will still have a good colony to winter in.

These are very important points that should never be overlooked in superseding our queens. I want a queen to occupy the hive she is to winter in at least 40 days before the breeding season closes. This gives her time to become acquainted with the colony, and fill the brood-nest once or twice with brood. If we all look to this part of our business as we should we shall have fewer weak colonies in the spring, and in the end we shall have more surplus, and secure it with much less labor.

Another question I am frequently asked is, "What is the opinion of the farmers in your locality in regard to the effect of your bees working on their buckwheat-fields?"

Some 25 years ago, when we came to Delanson, it was almost the universal opinion that our bees would injure their buckwheat so as to make the crop almost worthless, but the farmers soon changed their ideas on the subject. The buckwheat here is all thrashed by men who have thrashing-machines, and go from farm to farm thrashing the grain for a stated price per bushel. These men soon noticed that, when they came within three or three and a half miles of our apiaries the yield of grain was much better than outside that circle; in fact, it yielded sometimes nearly twice the amount per acre. This was a

surprise to some farmers. Their orchards also gave them much more fruit. The change of opinion among them has been so complete that they are now anxious to have our bees do well.

I sometimes wonder if there is any other business that has had to go through the mire of ignorance and superstition equal to bee-keeping.

Still another question I am often asked is, "Will the greater part of the honey in the future be produced by the specialist, or by men who have other lines of business to follow in connection with bee-keeping?"

In order to give this question any thing like a correct answer we must not only go back and review the bee-keeping of the past, but we must look upon it in the future as being subject to the same natural laws and conditions as all other lines of business. For some time we have seen a continual concentration of capital in every line of business. The men who have a thorough knowledge of their business, and an unlimited amount of capital, are fast driving the less fortunate out of business, and I can not see how bee-keeping can be an exception.

When I was a boy a large part of our farmers kept a few colonies; but now we seldom see any bees through the country except in large apiaries. And the same change will continue to go on until there will be comparatively few men engaged in the business, and these few will be located in the exceptionally good locations, keeping their thousands of colonies, and having the best of every thing connected with bee-keeping that money can buy; and they will sell their surplus at wholesale to reliable parties, giving them three or four months' time if they wish, which often makes quite a difference in the price favoring the producer. There are many young men now starting in the business who will in time drop out; but some will continue, and they are the ones who will be the honey-producers of the future. They will first work for men having had a long experience until they have a practical knowledge of bee-keeping. Here, among other things, they will learn the value and necessity of a good location. To these they will naturally go, where, with their practical knowledge of the business, they can produce honey at half the cost that the inexperienced man can in an ordinary location.

Delanson, N. Y.

HEADS OF GRAIN

FROM DIFFERENT FIELDS

A HALF-INCH STARTER AT TOPS AND BOTTOMS OF SECTIONS.

Dr. Miller says the bottom starter is his baby. Yes, and a robust one it is too. In his diagnosis of Mr. Pryal's trouble he says in substance, "I am of the opinion that the plan will work as well in California as in Illinois; also that the space between the two starters in this case caused the trouble, and with a space of 1½ inches or so between the starters the bees would lengthen each starter, and, when high enough, why should the lower one not lean over?"

I feel a little timid about clashing with Dr. M.

I will do it this way: If they will topple over with a space of 1½ inches, what will they do with a three-inch space? I am not a convert to the use of full sheets in sections, and use a half-inch starter, top and bottom. I have used many thousands this way, and have never detected any tipsy freaks in the lower starters. In a cool time the bees will invariably begin at the bottom, and in the T super they start earlier than in one with slats. I think they will fill the T super earlier than the others. The T super is warmer. In building up from the bottom the bees start with an extremely broad base, and usually are the full width of the section, or 1½ inches thick when not half way up. They make some drone comb with a perfect union wherever the two parts meet. This building from below, in all cases that I have seen, is caused by lack of heat in the upper part of the super, while the sections or frames are warm close to the cluster. Give me two starters and T supers. I could give some fine samples of up-building.

Corona, Cal.

H. M. JAMESON.

[We would inquire whether this building of the bottom starter first is not unusual. Is it true that the T super is warmer than the other styles? We can see no reason why it should be. It does, however, permit the sections to stand closer to the brood-nest, and this may account for the bees favoring the bottom starter.—Ed.]

TESTING PURITY OF BEESWAX.

While this pure-food law discussion is on in GLEANINGS as regards buying honey and not knowing whether it is pure or not, how about beeswax? I buy more or less each year, and have read all I can find in GLEANINGS, and will say I believe I can tell adulterated honey before I could beeswax. And after I have bought it and remolded it, how can I come back on the man of whom I have purchased it? He would say, "That's not the wax I sold you." I don't know that I have ever had any impure wax; but there is no telling when I shall get it.

S. A. PALMER.

Liberty Center, O.

[There ought to be no trouble if you keep a small sample of every lot of wax you buy, as we do. If you ever receive any complaints about adulteration, have these samples analyzed; and if you find one or more of them adulterated, hold these parties who sent them responsible, which you can do under the national law. In buying wax, look out for grease, as that is the most common adulterant. Avoid the purchase of cakes of uniform color and size, and submit all samples that do not show the proper fracture or break test to the alcohol and water test. The specific gravity of the mixture is made just dense enough to allow a sample of pure beeswax to sink. Any wax containing paraffine, ceresine, or grease, will rise to the surface.—Ed.]

HONEY AND SUGAR FROM SUGAR-MILLS; HOW SHALL IT BE LABELED?

Since the pure-food law has gone into effect I don't quite understand the ruling on labeling honey. The honey I sell (which is a very small quantity) is sold just as it is extracted from the hives. The bees are never fed, but there are sev-

eral sugar-houses within a few miles of my bees. How should my honey be labeled so as not to cause me any trouble with the pure-food law?

New Iberia, La.

R. SONNEMANN.

[Under the circumstances we would consider it advisable for you to submit several samples of your honey to the United States Department of Agriculture, Bureau of Chemistry, with an explanation of the conditions surrounding you. It may be that your bees do not gather any of this sweet; or it is possible that they appropriate so little of it that it would not show in an analytical test. If the government chemist advises you that the honey does not come up to the United States standard you will have to label it for just what it is—honey flavored with New Orleans molasses. Such honey ought to have a good market with the large baking establishments. If you sell it, sell it for just what it is; and we think they will take it off your hands at a fair price. It ought to make first-class cakes and cookies.—Ed.]

A GOOD HONEY-FLOW ON THE ISLAND.

Our new Italians seem to be good workers. To-day, April 20, we extracted 100 lbs. from our island apiary; considerable from two and three frame nuclei. Even the twin nuclei have some combs full. It came from saw palmetto.

Osprey, Fla.

I. T. SHUMARD.

[Since the above was put in type we have received the following:]

Mr. Root:—We have extracted 130 gallons of honey this week. From your little friend

Osprey, Fla., April 24. CLARA SHUMARD.

MORE ABOUT THE HONEY-FLOW IN FLORIDA.

Mr. Root:—All your chickens are doing finely. Their appetites are good. Eggs, 20 cts. We are having a big honey-flow. My colony on scales is averaging 8 or 9 lbs. a day—44¼ lbs. in five days. I am a busy man now.

Bradentown, Fla., Apr. 27. E. B. ROOD.

SWEET CLOVER.

I want to say to you that I am a lover of sweet clover. I am interested in it, not only for bees but for hay and for stock of all kinds. It is better for milk and butter than any thing else I can find. My wife says it is better than all other clovers.

G. W. MOURN.

Burriton, Kansas.

A FEW BEE-KEEPERS WHO STILL SULPHUR-PIT THEIR BEES.

Although the time has come when hundreds have found bee-keeping profitable, yet I am sorry to say there are quite a number still living in this beautiful State of Oregon who subject their bees to the sulphur-pit.

E. J. JOHNSON.

Hillsboro, Oregon.

SWARM TRAVELS 80 MILES.

I notice lately some inquiry in regard to the distance swarms travel. I remember seeing in GLEANINGS some twenty years ago a report of a swarm being traced in a desert in Colorado or Arizona, nearly 80 miles. They rested two nights and went on the next day.

New Hampton, N. Y.

E. D. HOWELL.

OUR HOMES

By A. I. ROOT

Jesus said unto her, I am the resurrection and the life: he that believeth in me, though he were dead, yet shall he live. And whosoever liveth and believeth in me shall never die. Believest thou this?—JOHN 11:25, 26.

I presume, friends, you are all more or less familiar with that wonderful 11th chapter of John, in regard to the death and raising to life of Lazarus. Many of you, like myself, are getting along in years. The friends of our youth are dropping away on the right and left all around us; and, as one after another is taken away, a sort of feeling of loneliness comes over us. Only a few of us get to be threescore and ten; and, as we approach that period, sooner or later we take a sober thought—a thought that we do not have in our younger years—in regard to this matter of life and death, especially *death*. What is it? I have spoken several times of the sudden calling-away of those near and dear to me. Two have recently gone out of our office; and during the past winter, while I was absent in Florida, first a brother-in-law and then his wife, my youngest sister. While my mother lived it was the habit of my life to pay her a visit every Sunday afternoon when it was possible; and as she lived with this youngest sister I was sure to see her, and have a talk with her at least once a week. After mother's death I somehow kept up the habit of calling on that sister and her husband Sunday afternoon. I can not remember a time in my life when that sister failed to give me a genial smile and a kind welcome. As she had some pretty strong opinions and convictions of her own, I fear that that smile was not always given to everybody; but when I came around, expectedly or unexpectedly, I always found it.

While in Florida we were informed that "Mattie," as we called her, was very sick with pneumonia. One day while in the postoffice I received a letter telling of her sudden and unexpected death. I put the letter in my pocket, and walked a mile to my home; but some way my intellect seemed dull or benumbed; I could not realize that Mattie *was* really gone from this world. When I came into the house and told Mrs. Root what the letter contained, she burst out crying; but I did not shed a tear. I felt troubled about it; but some way I could not take in or realize that the letter told the truth. I kept thinking that it was a mistake or misunderstanding somewhere; in fact, I took up a daily paper in an absent way and began looking it over. Pretty soon I thought I would go out and take a look at the chickens and see if they were all right. I had got as far as the steps that go down into the woodshed back of the house. I was half way down before my mind seemed to take in fully that this youngest sister was really *dead and gone*. She was considered the healthiest one of the whole family of seven children. She has been sick scarcely a day in her life. When a full comprehension of what had happened came over me I dropped on one of the middle steps of the stairs and began to cry. Yes, I cried like a child, in a way I had not done for years past; and that cry did me good. I think my little prayer, "Lord,

help," was uttered (at least mentally) a good many times; and I also prayed, as I have been doing so much lately, that I might be able to take in and learn the lessons the dear Savior is constantly striving to teach us.

Well, this event, and the further knowledge that others had died while I was absent from my northern home, has turned my attention to the text I have chosen to-day. The text embodies that wonderful promise—perhaps the most wonderful and difficult of comprehension of any among the precious promises the Bible contains. Let us go over the circumstances a little.

Martha, the housekeeper, as you will remember, as soon as she heard that Jesus was coming, went out to meet him while Mary remained in the house. Martha's first greeting was, "Lord, if thou hadst been here my brother had not died." Please notice that Mary uses the same words when she met him later on. They could not understand how it was that, when they had sent word to him four days before, he had so long neglected or delayed to come to the rescue of that brother whom they loved. Martha had faith, we know, even if she was such a diligent housekeeper, for she says, "I know that even now whatsoever thou wilt ask of God, God will give it thee." Does not this indicate that she had a sort of glimmering faith that he probably *had* power to raise even the dead? and did she know of any case in which he had raised the dead before this time? When Jesus told her that Lazarus should rise again, she replied, "Yes, I know that he will rise in the resurrection at the last day." We gather from this that the Jewish people had a belief or faith in the judgment day. Although the Old Testament does not tell us much about it, they expected and looked forward to a future life. Then we come to the wonderful words of our text—"I am the resurrection and the life." This is the part of the promise I have been trying, sometimes almost in vain, to grasp and comprehend and *believe*. This resurrection that all mankind has looked forward to, more or less, is not only under the direction and control of the Son of God, but he *is* the resurrection and the life. And then comes the rest of our text: "He that believeth in me, though he were dead, yet shall he live."

This last does not seem to require so much faith, because it might be only a promise that he should live again in the judgment day; but the 26th verse says, "Whoso liveth and believeth in me shall *never die*," and that is the most astounding and wonderful of all. I am not a theologian. Very likely I have not gotten things right; but the great truths we are searching for and trying to grasp, I am sure, do not depend very much on whether we all think alike or even have things *right* or not. As we come to mature years we have a sort of judgment and wisdom given us that does not come to us in our younger days. I do not think the younger people will quarrel with me about this. Old age has taught us lessons. Watching the great wide world, especially in a prayerful attitude, has taught us lessons and given us wisdom. A man who has had experience in things of this world can give a pretty fair judgment as to what is best to be done in a case of emergency. Now for that wonderful promise. I do not understand, and I think that very few will understand, that the dear Savior meant

to say that if our faith is sufficient we shall never die a physical death. We must all die of old age sooner or later; but the inspiring promise in these last words as they come to me is that this physical death shall be *bridged over*, as it were, by faith.

And now we come to something that is very hard to comprehend. Perhaps it is not God's will that we ever *shall* comprehend it. Some Christians die apparently without pain. Many of them, we are told, die rejoicing. Of a few, perhaps, it may be said their dying hours were expressed in that other wonderful passage where Paul asks, "O death, where is thy sting? O grave, where is thy victory?" Those whose dying hours are described in the above may fairly be said to "never die."

My good father had no such faith as did my mother. He was doubting and stumbling all his life. Again and again she by her strong faith, that never wavered, lifted him up and planted his feet on solid ground. Well, there was no suffering in his dying hours. I held his hand to the last, and there was no struggle or gasping for breath. His last words were quiet and tranquil, and his face had a peaceful and happy look, long to be remembered by those who saw it; and yet that good mother, whose life was a beacon star to the father and to all of us seven children, died after much prolonged suffering. I was absent when she neared death, but reached home in time to have her express her thanks that I could be near her in her last hours. I have seen other deaths, where it was like an infant going to sleep, and still others where there was great and prolonged suffering. Now, I firmly believe that whosoever liveth and believeth, and accepts the Lord Jesus Christ as the Son of God, shall never die spiritually; but I can not think that Jesus meant we should all be spared the pains and agony of death. I do believe that, with the progress we are making in the way of prevention if not cure of painful diseases, much of the suffering that comes with sickness and death will be done away with; and a faith in God, and an earnest desire to learn these things we are slowly learning, will do much to avert sickness and pain. I do believe in prayer. Even though I can not accept Christian Science and all that is said and written about "faith cure," I can say with a clear conscience that, in my prayers for help amid all kinds of suffering, I can scarcely recall a time when help was not given sooner or later.

Yesterday morning a stranger came into our office, wishing to renew his subscription to GLEANINGS. They sent him over to the desk where subscriptions are received. I overheard him saying something about A. I. Root; but as I had some complicated matter in my fingers at that time I delayed going over to where he stood; and I do not know but I was tempted to think somebody else could wait on him as well as not. Pretty soon he came my way a little hesitatingly. When he told me that he knew me personally more than forty years ago, and had been reading our journal for years, I asked him if he would not like to look over our establishment. I thought, however, he did not seem to be as much interested as many are with the machinery, the buildings, and the busy workmen. Finally he said something like this:

"Mr. Root, I have long wanted to see you and take you by the hand; and I wanted to try to tell you how your little prayer, 'Lord, help,' that you gave us years ago, has helped me through many troubles and disappointments."

Then he gave me a brief account of some of them. Well, I want to confess to you now that sometimes, and especially of late, I get into trouble, and perhaps suffer real pain for quite a good while until finally I say to myself, "Why, old fellow, you have not even once in this case thought to bring into play that little prayer you recommended so much to everybody else." Then comes the prayer, 'Lord, help,' and in a little time I have surmounted the difficulty and go on my way rejoicing. It does not seem to matter whether it is an automobile that I can not manage, or an outbreak of my old temper that prompts me to think of getting up and fighting somebody in my old age; that weapon, "Lord, help," fits all cases and emergencies.

I am told that my brother-in-law, when near death and suffering great physical pain, said over and over to himself, "Jesus, help!" Although he was not a praying man (that is, so far as we know during a busy life that took him nearly over all the world), I was wondering if it were not possible that he too, in his dying agonies, remembered the little prayer that we have been talking about. As Jesus pardoned the thief on the cross when he uttered that brief prayer indicating a penitent spirit at the last moment, we can be sure that in this other prayer where Jesus' help was implored, his help was given.

Now, friends, God knows how we shall die. A dear friend of mine, when very near death, asked one of the relatives to pray that his passage through the dark valley might be an easy one. In this case the prayer was seemingly granted. Now, while I can not think of finding any fault with such a prayer, I have a sort of feeling that we who are strong men—not only physically strong in body, but perhaps strong in faith—should be ready and willing to bear *our share* of what naturally comes in the way of the pangs of death. The dear Savior said in his dying agony, "My God, my God, why hast *thou* forsaken me?" I think we may safely gather from this that not only did he suffer bodily torture, but he was, through his excruciating agony, perhaps tempted to feel that the great Father who had stood by him through every incident of his life here on earth had finally, at the last moment, turned his face away from him. If *he* suffered, should not we, who have suffered here on earth for his sake, feel ready and willing to follow him and suffer the agonies as he did—that is, if somebody *has* to suffer? A follower of the Lord Jesus Christ should be *brave*—yes, he should be a brave *soldier*. God does not *always* take the obstacles *out* of our pathway; sometimes it would seem he prefers to lift us over them, providing always *we* do a good job in the way of climbing over them ourselves. And when I come to die I hope my prayer may be, "Lord, help; if it be consistent with thy holy will that I may be spared these bodily pains, well and good; if not, give me, I pray thee, grace to bear them. And give me of thy Holy Spirit that I may be willing to bear in a manly way the sufferings that our dear Savior bore, and that are common to humanity in gen-

eral." And then I hope I may have strength of *body, mind, and spirit* to say, as did the Savior, "Into thy hands I commend my spirit."

After different ones who were near and dear to us have been called away Mrs. Root has frequently asked the question that has been so much in my own mind—"Are these dear friends permitted to know and see what is going on here in this world after they have left us?" The Bible does not tell us much about it. At the transfiguration on the mount, Moses and Elias came back to earth, and we are told they gave the dear Savior encouragement for his coming trial and suffering. They, at least, evidently knew what was transpiring here. God has, evidently, for some good purpose, kept us in the dark in regard to this matter.* Jesus once said, "In heaven they neither marry nor are given in marriage;" but, if I am correct, this is almost as much information as he gave us at any time in regard to the future.

Now, I have several times in the past alluded to this wonderful God-given *instinct*, both in man and in the animal kingdom. The chickens have a language that they understand, and which the mother understands, when they are only a few hours old. Instinct prompts them what to do in case of emergency, and *how* to do what is best for them—at least to a certain extent. Instinct also prompts mankind, perhaps not exactly as it does the chickens, but in many ways it is a *wonderful* controlling and directing power. As I grow older this same instinct seems to be still with me, prompting me as it did when a child, telling me how to take care of my God-given body, and, to a certain extent, telling me of the future, what God expects of us, and what we have a right to expect of him. Great writers have frequently rebuked skepticism and infidelity by calling attention to the fact that it would be unreasonable, and not to be thought of for a moment, that God would give this education and drill that we get here in this world, or might get, and then snuff us out with annihilation. I think every intelligent human being, if he will but think a moment, will agree to this. In speaking of suicide, some say that that ends the matter, and some religious denominations, if I am correct, declare that annihilation is the punishment of the wicked. Let me suggest right here that no doctrine in the world would so much encourage the suicide mania, which is getting to be so prevalent, as a doctrine like this, unless it is Universalism. God forbid that any human being may rush to the conclusion that he can cancel all his debts, and obtain forgiveness for all his old sin,

* In the 16th chapter of Luke, in the parable, we are told the rich man begged to have Lazarus bring him just a drop of water to cool his feverish tongue. Abraham refused to grant the request, giving two reasons for this refusal. First, "between us and you there is a great gulf fixed so that they which would pass from hence to you can not; neither can they pass to us that would come from thence." Then this rich man begged to send a message of warning to his five brethren; but father Abraham says *no* again, and gives another reason—"If they hear not Moses and the prophets, neither will they be persuaded though one rose from the dead."

Now, these two passages may not be intended to teach us that there shall be no communication between the departed friends and this world; but does it not look somewhat that way? There certainly is a "great gulf," as told us in the parable; and I am inclined to think, too, that, even could those come back who have died in their sins, their warning would be but little heeded. God knows we have lessons enough right before us in regard to the consequences and penalties to be paid here in this life to those who deliberately choose sin and crime.

by destroying the life that God gave, and which only God can give. Of course, the Bible plainly teaches us of a future life; but does not instinct also in the way I have pointed, and other ways, offer this same future to all of us?

Three near and dear friends have recently and suddenly been called from this world, and the call came so suddenly that not one of these had time, or it would almost seem so, to bid us good by. It seemed hard, when I came to think of it, and Mrs. Root again expressed my feelings when she said something like this:

"Did they really know they were so near death? and if so, why was there not some sort of good by, or something to make us feel easier and better about it?" And then she added, "Oh, if it were only possible for them to give us just the least bit of message, saying they are at peace, and still remember us all in the loving way they did when they were here on earth!"

Her words astonished me somewhat, because I had been having the same thoughts and feelings. In fact, I had prayed that God might give us light in the matter if it were consistent with his holy will.

I now wish to relate an experience that has given me comfort, and I should like to know if it has been shared by others who have lost dear friends. I spoke in one of these Home papers of a good woman who had been many years in our employ—a devoted Christian woman. She and I had many talks about death. I had promised to call on her the day before she died; but I stupidly forgot it, not knowing, of course, she was anywhere near death. I deeply regretted it, and for many days after that she was much on my mind. Finally I noticed at times, when I was busy at something else, a strange feeling came over me causing me to feel that she was near; in fact, at such times I almost seemed to feel her presence and see her face. A heavenly smile lighted it up, and that glimpse told me as well as any thing but words could tell, that she remembered lovingly all of her old friends and comrades through life. After Mrs. Root's sister passed away I had a similar experience. Something that I can not describe seemed to tell me that she was at peace, and happy, and had in no way forgotten the dear friends whom she had left so abruptly, even though she *had* gone away so suddenly that she did not have an opportunity to bid them good by for ever—no, *not* for ever; that is not the word. It should be "good by until we join the happy throng on the other shore."

I told you how hard it was for me to realize that my youngest sister had really gone. Well, some days afterward came that same longing for some sort of recognition showing that she remembered us, and when busy at work out in the field or with my poultry, when I had not been thinking of her at all, memory or something else would *startle* me by a vision of her old cordial smile and hand-pressure—a sort of assurance, as it were, that she knew how we missed her, and perhaps knew our very thoughts.

Now, these thrills that come to me may be only a memory of the dead; but I can not help taking it as an answer to my little prayer, and that God in his great mercy and loving kindness has permitted me to have just a *little* glimpse of the unseen world to strengthen my faith.

It has been reported, as you may know, that somebody once asked Darwin if he believed that the Creator had ever given us any revelation from the future and spirit world, and he replied he was unable to find any such evidence satisfactory to himself. Some writers have claimed from this that he rejected the Bible and its teachings. I do not take it so. I have read over and over what he said, and I think he intended to convey the idea that, since the day of miracles, or aside from the revelation of the Scriptures, he could find no evidence of any reliable communication from the spirit world. I heartily agree with him in that. What I have just been telling you about has no reference to spiritualism. I do not believe I shall ever have any leaning in that direction; but again and again have devoted Christians told me that, after the death of one of the near and dear ones, God had sent the comforting influences of the Holy Spirit in a way that was just wonderful. My own good mother frequently referred to it after the death of my father. She said she almost felt his presence near her, and so perhaps I have *inherited* something of the same sort.

In the 16th chapter of John you will notice Jesus has much to say about sending the Comforter after his ascension. Now, can we not in closing find additional happiness and comfort in going over once more the words of our text?

"I am the resurrection and the life. He that believeth in me, though he were dead, yet shall he live; and whoso liveth and believeth in me shall never die. *Believest thou this?*"

CHICKENS FOR BOYS AND GIRLS, AND FOR ELDERLY MEN AND WOMEN, ESPECIALLY THOSE WHO LIVE IN CITIES AND TOWNS.

I take great pleasure, friends, in showing you a beautiful picture of one of Mr. Philo's houses for six hens, see p. 638. These fowls are a strain of White Orpingtons. They have been kept in these little houses indoors for five generations. They will not go out and run away, even if the door is left open, or at least they did not when I was there. This is the more remarkable because the house is only 3 feet wide, 6 long, and 4 high—5 feet to the peak of the roof. Of course, the proprietor is not supposed to go inside of the house, as the lower story is only 2 feet high, and he might bump his head, although the chickens do not. But the houses are so arranged that he can easily reach every foot of space inside, keep it clean, get the eggs, pat the biddies on the back, give them a kind word, etc. The same building will answer for chickens of all ages.

Well, the first week or two such houses will accommodate 50 or 100 chicks very nicely. When they are too much crowded, just put half of them in a similar house, and so on. Friend Philo thinks one gets enough more eggs with only six laying hens in a house to save the cost of the extra house. If managed properly, one ought to get six eggs a day a good deal of the time; but if you had a house large enough to hold sixty, how long would you have to wait before you got sixty in a day?

The picture is so plain that it almost explains itself. There are doors to the lower story, both front and back. These doors can be held open with a hook so as to give shade when the fowls

need it. Then the poultry-netting frame can be moved out so as to make a little yard both sides of the house. This is an advantage in giving them green food; for lettuce, oats, rape, or other vegetables may be planted in this ground for their special entertainment.

The front roof is in two parts so you can open one to get the eggs without opening the whole roof. The two frames, one covered with cloth and the other with poultry-netting, slide back out of the way. The cloth gives them air without too much of a draft; and it also shades them from the sun when too warm. It gives them more light than when the roof is left on. The gable in full view is also covered with cloth. In winter time an extra cloth tacked on a frame is put over this end, making a dead-air space, and still giving them an abundance of air. The lower part is all used for scratching-pens. The water and food are upstairs, as are the nests. While in Florida I found it quite tiresome to stoop down to the ground to gather the eggs, especially where they were hidden in the bushes or inside of a barrel or other like places. Now, with this arrangement you can get the eggs while standing up straight. The roosts for six hens and a rooster are placed over a light pan of galvanized iron. There is a handle to this pan so you can take it in one hand and lift out the droppings in the fraction of a minute. The bottom of the pan is kept covered with a little dry dust, or, better still, pulverized peat, or swamp muck, that will make the droppings all come off from the pan and leave it perfectly clean.

Now, these buildings need not be expensive. You will notice the front door where it is turned up is cheap half-inch lumber. This lumber is covered with a good quality of building-paper. The whole thing is so light that it can be easily moved along so as to give the fowls fresh ground once a week or oftener if you choose.

Now, then, friends, what girl or boy would not be captivated by such a handsome little poultry-house containing laying hens or chickens of different ages, or all together if you choose? When you live out in the country, where hens can run out without annoying the neighbors, I think you can keep a dozen or more in one of these little houses.

There are quite a few poultry-keepers nowadays who claim they get more eggs from fowls in confinement, where properly supplied with all their needs, than they do where the fowls run loose. I suspect, however, that a small yard for each little house will be better still.

But one thing should impress itself upon all who are keeping poultry. We who are followers of the Lord Jesus Christ should not keep fowls nor any thing else to the annoyance of our neighbors. Years ago my good old friend "Aunt Margaret" said in substance, "Mr. Root, if chickens make my neighbor to offend, I will keep no chickens while the world standeth." Then she promptly sold every last one, and kept no more. I really felt ashamed of myself, and was sorry I had complained, even if her poultry did get over on to our flagstone walks and annoy us. With the above little house, and fowls kept inside or in a secure little yard, there is no danger of their being troublesome to the neighbors or anybody else.

INCUBATION—SOMETHING YET TO BE DISCOVERED.

Just before I left Florida, one day when I was away from home Charley, our colored boy, found a nest out among the palmettos containing 16 eggs. As he knew we were going away soon he drove the hen off, covered up the nest, and carried the eggs to Mrs. Root. She broke one to see if they were fit for use; but finding they were about a week toward hatching she kept them until my return next day, and then suggested that I could boil them for the young chickens. I said, "Not so. We will put them back in the nest, and let these chickens hatch after we are gone."

"But, my dear husband, they certainly will not hatch, for they were on the bench in the workshop all night, and it was quite cold."

I told Charley to fix the nest as it was, and put them back; but the hen was too badly scared, and paid no attention to them. So they were out another night; but when I found a hen that wanted to sit, I gave her the 15 eggs. Mrs. Root thought I was crazy in thinking eggs would hatch after they had been out in the cold for two days and two nights. But I had read somewhere in a poultry journal that, after eggs had been incubated until the fertile ones could be sorted out, they could be sent by express short distances and still hatch. In this way you need not send off unfertile eggs at all, and have your customer go to the expense of sending back the bad ones to prove that they were no good. Mrs. Root laughed at my pains with some eggs that "everybody knew" could not possibly hatch chickens. Well, my neighbor, Mr. Rood, writes as follows under date of April 15:

"The hen hatched fourteen chickens, and they are all growing finely."

I suppose of course the mild weather of Florida favored the matter; but, if I remember correctly, one of the two nights when the eggs were out of the nest the temperature was somewhere between 40 and 50 in the morning. In view of this, is it so very important that the temperature be kept constantly at 103°? One of the poultry journals says if you let a sitting hen have the eggs for the first week almost any incubator will give a successful hatch. Who knows about it?

ALFALFA FOR POULTRY, BEES, AND OTHER FARM STOCK.

I take great pleasure in presenting the following, taken from the *Ohio Farmer* for April 25:

Last year I selected a plot of rich garden soil, pulverized the soil as fine as for an onion-bed, then I made shallow furrows two feet apart, and sowed the alfalfa seed in them with the garden-seed drill the same way as onion seed, and about as thick; then I walked over the seed, firming the soil over them. In a week the seed had germinated, so that I could see the plants in the rows. I ran the wheel cultivator between them, removed all the weeds, and replanted vacancies. The wood ashes from the house were scattered between the rows, and the cultivation kept up all summer, and in the early winter the plot was top-dressed with fine manure. I obtained two cuttings the first year, and a second was left on the ground. This season, judging from other plots of alfalfa on my place, I shall cut four large crops. Thus I know from experience that alfalfa is the best food for the poultry, the cow, and the horse, that I ever used. When you have obtained all the milk or eggs you can with other grasses and grain, you can further increase the yield with alfalfa, and the cow will leave all other food for it; and hens that are confined in yards will eat cut alfalfa as readily as grain.

With all my animals, I can reduce the grain feed more than one-half with alfalfa. Here is the solution of the problem of making hens pay on the village lot, if there is a good piece of soil near by where alfalfa can be grown as I have described. I

wish to be understood that one must learn to grow alfalfa, and how to handle it for feed. It never will be easy to start alfalfa on common soil; but give it the same care as the garden crop, and understand that its culture is the highest type of farming or gardening, and that it requires as much skill as to grow fancy strawberries. Study the plant and its needs, then do the work the right way, and there is no doubt about results.

I have a neighbor in the village where I live, who tells me he can show a balance sheet of \$2 profit per hen for one year. His hens have plenty of grass. My friend living in the village of which I have spoken made a profit of only 60 cts. per hen last year. I told him about my experiments in the cultivation of alfalfa. He is going to try growing it in the same way. I believe it possible for him to make as good a showing as my neighbor, whose margin of profit is \$2 per hen. W. H. JENKINS, Delaware Co., N. Y.

Now, friends, the above is true—every word of it. Alfalfa is being grown successfully over almost all of the United States. I got a good strong stand on a little piece of ground in Florida by making the soil rich with cow-chips, as I have explained. Of course, it may not be suitable for all soils; but if you find you can grow a little patch of it in your garden you can extend the area and get a good field of it eventually. Please bear in mind that, where it is once well started, it is good for fifty years or more. It certainly is nearer a grain ration than any other clover or grass in the world. Sweet clover may come pretty close to it in value after the stock have once learned to eat it. I do not know about that, but I would urge every farmer or gardener to start a little patch in his garden at once—that is, if alfalfa is not already growing and succeeding in his region. It is the quickest seed to germinate, I think, I ever got hold of. The plants will be up and growing before you know it; and with a very rich and suitable soil, and plenty of water to start with, they will make about the most rapid growth of any plant I know of. Even if you have only a few chickens in town, you want a bed of alfalfa; and it will be just the time to start it when this gets before you. For years we thought alfalfa would not grow in Ohio; but as the people have learned how to handle it, it is now getting to be a success almost everywhere.

ONE OF THE "STRAWS" WHICH SHOW WHICH WAY THE "WIND BLOWS."

Dear Brother Root:—"Missouri is going dry." The Anti-saloon League is bringing things to pass in this State. We have 76 counties out of 114 in the State; have closed nearly 300 saloons since the first of January. We are distributing 50,000 of the enclosed buttons; will have another 50,000 ready for delivery in July. Yours for the annihilation of the liquor traffic in the nation. U. G. ROBINSON, State Supt.

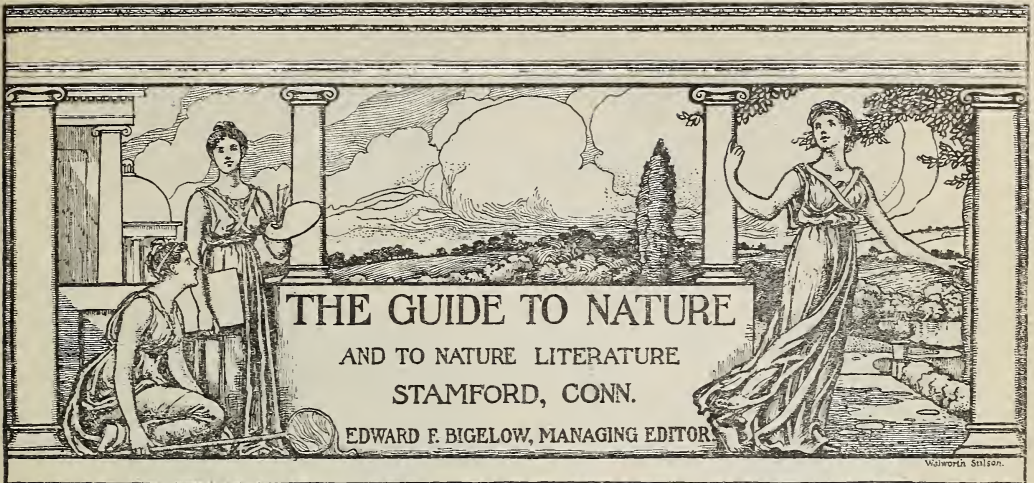
St. Louis, April 29.

Perhaps I should explain that the matter on the enamel button inclosed in the above letter reads "Missouri dry in 1910."

Here is another straw. Several Medina people have recently moved to New Mexico, and they have recently sent me a leaflet to let us know how they prosper. It reads as follows:

Artesia was the first town in New Mexico to abolish gambling by law, and on March 3, 1908, by a vote of more than two to one, the citizens banished the saloons. The first town in New Mexico to take such action. Moral: Come to Artesia. This tells you what kind of neighbors you will have.

By the way, friends, there is a big moral right here. Did you ever hear or did anybody ever hear of anybody else boasting that a town had gone wet? How would it seem to hear somebody say, or to see an advertisement (asking people to locate) reading as follows—"Our town has just voted wet *two to one*"?



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It is the mission of "The Guide to Nature" to draw the reader toward an appreciation of the beauty and value of natural objects and away from artificial objects to the domain of wild nature; to arouse the listless student to activity and zeal in the study of nature.

Even to the most enthusiastic of us who study and love nature, there come times when, after we have "wandered away and away with Nature," we can sympathize with what Longfellow said of Agassiz, that

"the way seemed long
Or his heart began to fail."

It is at such times that "The Guide" will inspire to greater efforts and encourage every student by telling of the faithfulness, zeal, and success of others. We all need good cheer from fellow-workers. Much of our inspiration is, "Omne vivum ex vivo," which freely translated means, "We are inspired and cheered by a friend." "The Guide" will be a leading, enticing, cheering, encouraging friend to students and lovers of nature.

The manufacturers of a certain "talking machine" advertise extensively that it "saves theater money." The publishers of "The Guide to Nature" can excel that by at least one point, and may well advertise that it "saves theater desire"—makes the theater expense wholly uncalled for, and that, too, in the best way, not in substitute on a small scale, but an excelling on a larger and better point of view.

There is no entertainment, no interest, no education, no resource equal to nature when rightly viewed. "The Guide to Nature" directs you to that view.

You who find entertainment and interest in honey-bees need no further argument. You are of the right mental make-up to understand all I would say if I wrote volumes on nature as a recreation. All you need to do is to send \$1.50 for a year, or 15c for a single copy.

EDWARD F. BIGELOW, Editor of "Guide to Nature,"
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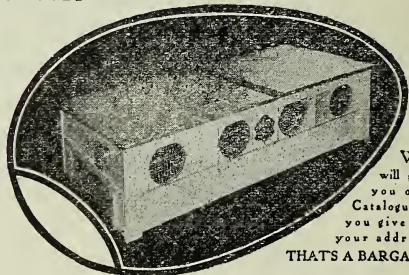
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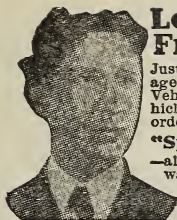
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Mr. Root:—I have been using your nickel-steel hive-tool this spring, and am very much pleased with it. It is the best thing I have tried yet. I, with my helper, have been using tack-pullers heretofore; but this is better because so much stronger. It leaves nothing to be desired except that there should be a hole in it a little nearer the crooked end. I tried to get one drilled but had to give it up—too hard; so I fastened a strap around it to fasten to my pants button.

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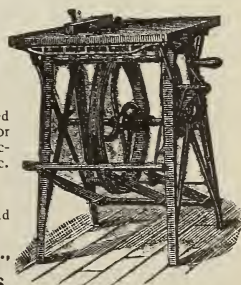
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Whenever you are in San Antonio make our office your office, and let us show you through our plant. Stay here awhile and meet the bee-keepers as they come in. You are always welcome and will be courteously treated.

The Great Word Contest. More than a thousand persons entered our word contest; and as a result we have had to engage the services of an expert to determine the winners. We can not report in time for this issue, but hope to be able to announce them in the issue of June 1st—watch for it.

UDO & MAX TOEPPERWEIN
1322 SOUTH FLORES ST. SAN ANTONIO, TEXAS



HIGHLAND FARM QUEENS



are the result of years of careful selection and judicious breeding from the best honey-gathering strains of superior long-tongue red-clover Italians in America and Italy. Highland Farm methods will produce perfectly developed, long-lived, and prolific queens. If you want bees that will winter well, build up rapidly in the spring, and roll in the honey. Highland Farm queens will produce them. We are now booking orders which will be filled in regular rotation, beginning

May 15. You should get in line by placing your orders early, and avoid the rush of the busy season. Single queens, \$1.00; 6, \$5.00; 12, \$9.00. Safe delivery and satisfaction guaranteed.

For further information send your address on a postal card to

HIGHLAND BEE AND POULTRY FARM, J. E. HAND, Proprietor, BIRMINGHAM, ERIE CO., O.

NEW GOODS! BIG STOCK!

New Warehouse Root's Goods
Prompt Shipment Low Freight

**EVERYTHING
FOR THE BEE-KEEPER AT
SAVANNAH, GA.**

We are now prepared to furnish promptly a full line of supplies; choice new stock just from the factory.

Bees and Queens!

We have large apiaries of fine stock. Book your orders at once, as there will be a heavy demand this season. Catalog sent free. Correspondence solicited.

HOWKINS & RUSH
241 BULL ST. SAVANNAH, GA.

If You are Located in West Virginia or Ohio

or anywhere else, order ROOT'S GOODS from PEIRCE and save time and freight.

EDMUND W. PEIRCE,
136 W. Main St., Zanesville, O.

ROOT'S BEE-SUPPLIES AT SPRINGFIELD, MASS.

New Goods. Free Catalog. 'Phone.
F. R. DANIELS, 117 FLORENCE ST.

Honey-cases for Sale. Price 30 cts. per case. Two cans to the case. Both cans and cases in A-1 condition. For lots of 100 or more write us for price. **Michigan White-Clover Honey Co., Detroit, Mich.**

For Sale. Red-clover, Italian, and Caucasian Queens Ready Now.
A Carload of BEE-SUPPLIES, AND QUEENS.



SEND ME A BILL OF SUPPLIES NEEDED, AND I WILL GIVE YOU MY LOW PRICES.

I can save you money.

PRICES OF QUEENS: Untested, 85 cts. each; dozen, \$8.50; tested, \$1.00; dozen, \$10.00; breeding queens, \$2.50 to \$5.00; nuclei, four-frame, with fine queen, \$4.00.

SEND FOR CATALOG. GOODS GUARANTEED.

G. ROUTZAHN, BIGLERVILLE, PA.

Imported Carniolans, Caucasians, Queens

and Hungarians (Banats), each bred in native land of respective race, \$5.00 each. Now on hand ready for immediate delivery.

Frank Benton, P.O. Box 17, Washington, D.C.

Root's Bee Supplies at Root's Prices.

ITALIAN BEES.

Full colonies, in Root's Dovetailed or Danz. hives, May, \$8.00; June, \$6.50; July, \$5.00 per colony.

D. C. Kauffman, 31 W. Phila. St., York, Pa.

CHOICE QUEENS

ITALIANS AND CARNIOLANS.

1 untested, 75c; 12, \$7.50. 1 tested, \$1.00; 12, \$11.00.

1 selected tested, \$2.00. 1 breeder, \$3.00.

Nuclei, full colonies, and bees by the pound at low prices.

CHAS. KOEPPEN, Fredericksburg, Va.

ITALIAN Queens

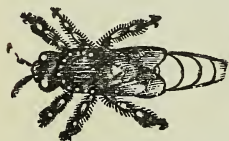
and bees, and nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Our stock is northern-bred and hardy. We just visited our outyards (all wintered on summer stands), and not a colony is dead to date (March 18). Some hives have lost scarcely a bee, so it appears. BROTHER BEE-KEEPER, how do you like such stock for hardiness? A party up in Maine got 50 nuclei of us several years ago. We just received a letter from him. He is after more of our bees, because last season he got 2200 pounds of honey which sold for 22 cts. per pound. Our stock is well known throughout the United States. Some of the largest yields reported can be traced to our stock. Over 20 years a breeder. Free circular and testimonials. Price of stock as below.

Prices of Queens before July.	1	6	12
Select queens	\$1 00	\$5 00	\$ 9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00		
Golden five-band breeders	6 00		
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuclei, no queen	3 50	20 00	35 00
Full colonies on eight frames	6 00	30 00	

ADD the price of whatever grade of queen is wanted, with nuclei or colonies; nuclei ready about May 1st to 10th; can furnish bees on Danzenbaker or L. frames; pure mating and safe arrival guaranteed. We employ 400 to 500 swarms in queen-rearing, and expect to keep 500 to 1000 queens on hand ready to mail. Our Northern-bred bees are hardy, yet gentle; they will give you results. Address all orders to

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

ITALIAN QUEENS



Fine young prolific 3 and 5 banded Italian queen, untested, only 75c; extra-fine queen, \$1; tested, \$1.25. Full colonies in 8-fr. hive, with queen, \$5.50; 3-fr. nucleus, with queen, \$2.75. Safe arrival guaranteed. Directions to introduce go with queen. Price list free.

J. L. FAJEN, . ALMA, MO.

Queens from Southwest Florida

From very best stock, furnished by The A. I. Root Co.; reared on the island where A. I. Root was formerly located. Prompt shipments and correspondence solicited. I. T. SHUMARD, Osprey, Manatee Co., Fla.

Queens FOR 1908.

Finest Golden bred in America. Send for my latest circular and prices — "and be convinced."
DANIEL WURTH, . PITKIN, ARK.

GOLDEN ITALIAN QUEENS,

Six for \$5.

Safe arrival and satisfaction guaranteed.
18 years' experience. Circular.

J. B. CASE, Port Orange, Fla.

GOLDEN-ALL-OVER and RED-CLOVER ITALIAN QUEENS

My stock is the result of years of careful selection, and is equal to any in the country. The prices are only such as to insure long-lived, prolific queens, whose workers will be hardy and good honey-gatherers. Write for 1908 circular. PRICES.

	1	6	12
Untested	\$1 00	\$5 00	\$9 00
Select untested	1 25	6 50	12 00
Tested, \$1.75 each; select tested, \$2.00 each.			

I am booking orders now, delivery after May 25.

Wm. A. Shuff, 4426 Osage Ave., Philadelphia, Pa

Taylor's Strain of Italians is the Best

Long tongues and golden are the best of honey-gatherers; 19 years a specialty, breeding for the best honey-gatherers. Untested, 75 cts. each, or \$8.00 a dozen; tested, \$1.00 each, or \$10.00 a dozen; select tested, \$1.50 each. Breeders, the very best, from \$3.00 to \$5.00 each. We sell nuclei in full colonies. Bees in separate yards. Safe arrival guaranteed. Send all orders to

J. W. TAYLOR & SON, Beeville, Bee Co., Texas.

Italian Bees and Queens

from Root's red-clover stock of golden Italian queens. Untested, 75 cts. each; six, \$3.75. Select untested, \$1.00 each; six, \$5.00. Tested, \$1.50 each; six, \$8.00. Select tested, \$2.00. Two frame nuclei, with untested queen, \$2.25. Orders filled in rotation. Send all orders to E. A. SIMMONS, GREENVILLE ALA

NOT CHEAP QUEENS, BUT QUEENS CHEAP

500 Best Strain Italian Queens Ready to Mail March 1st. Untested queens in lots as follows: 1, 75 cts.; 6, \$4.20; 12, \$ 7.80. Tested queens in lots as follows: 1, \$1.00; 6, \$5.70; 12, \$10.80. Breeders' queens in lots as follows: 1, \$5.00; 3, \$12.00. Nuclei with untested queen: 1-fr. \$1.75; 2-fr. \$2.25; full colonies, \$4.75. Nuclei with tested queen: 1-fr. \$2; 2-fr. \$2.50; full colonies, \$5. Also dealer in bee-keepers' supplies. Root's goods. Ask for cat'g.
W. J. LITTLEFIELD, LITTLE ROCK, ARK.

QUEENS

GOLDEN AND CLOVER STOCK.

Prices for May and June: Choice queens, \$1.00 each, 6 for \$5.00, or \$9.00 a doz.; after July 1st, 75 cents each, 6 for \$4.00, or \$7.50 a doz. Tested queens in May and June, \$1.50; after July 1st, \$1.25. Two-comb nucleus, no queen, \$2.00; three-comb nucleus, no queen, \$2.50. Full colony on eight frames, no queen, \$5.50. Five per cent discount on five, ten per cent on ten or more. CATALOG FOR 1908 FREE. SEND FOR ONE. GEO. W. BARNES, box 340, NORWALK, OHIO

ITALIAN QUEENS

Having purchased the apiaries and queen-rearing business of Mr. A. E. Titoft, at Ioamosa, Cal., I hereby politely tip my hat to the bee-keeping world and try to say that I shall use every endeavor in my power to serve you faithfully and honestly.

Send for circular and price list.

Yours for the best queens and bees,

E. M. GRAVES,

Ioamosa, San Bernardino Co., Cal.

Westwood Red-clover Queens

Are the bees that got the honey in 1907.

Better try them for 1908. Nuclei and full colonies a specialty. Price list on application.

HENRY SHAFFER, 2860 Harrison Ave., Sta. L, Cincinnati, O.

PHARR'S GOLDENS

took first prize at three exhibits in 1907. We also breed Carniolans, three-banded Italians, and Caucasians, bred in separate yards and from the best breeders obtainable; guarantee safe delivery and fair treatment. Untested, 75 cts.; tested, \$1.00.

New Century Queen-rearing Co., Berclair, Tex. John W. Pharr, Prop.

W. H. Laws is again on hand for the coming season with a larger stock of queens than ever before. He sold 400 queens to a New Mexico producer last May who wrote, "Your stock is far ahead of those Eastern queens I have been buying," and has placed his order for 1000 more of the Law queens to be delivered in May and June coming.

Others write that, if they had purchased all Laws queens, their crop of honey would have been doubled. Testimonials enough to fill this book. If you are going to improve your stock, had you not better investigate?

Single queen, \$1.00; dozen, \$10.00; breeders, the best, each, \$5.00. **W. H. LAWS,** Beeville, Bee Co., Texas.

ITALIAN QUEENS BY RETURN MAIL OR MONEY REFUNDED.

Warranted, \$1.00 each, six for \$5.00; tested, \$1.50 each.

D. J. BLOCHER, PEARL CITY, ILL.

MILLER'S SUPERIOR ITALIAN QUEENS

By RETURN MAIL; bred from best Red-clover working strains in U. S. No better hustlers; gentle, and winter excellent; untested, from my SUPERIOR breeder, 1, \$1.00; 6, \$5.00; 12, \$9.00. After July 1st, 1, 75c; 6, 4.00; 12, \$7.50. Special prices on lots of 50 or more. Satisfaction and safe arrival guaranteed. Circular free. **ISAAC F. MILLER,** :: Reynoldsville, Pa.

Queens Queens

of the

FINEST POSSIBLE BREEDING

BRED BY

F. J. WARDELL,
UHRICHSVILLE, OHIO, U. S. A.

After many years' experience as head queen-breeder for The A. I. Root Co., I am now breeding bees at the above address. My stock is equal to any now advertised, and my long experience enables me to judge very accurately the value of any strain. Mine is the celebrated red-clover stock, which has given so much satisfaction to thousands of buyers for a number of years past. If you desire something very select for breeding purposes, write to me, stating your wants, and the same will be supplied. I have no cheap or inferior queens to sell. My prices for the season are as follows:

	May to June.
Untested queen	\$1.25
Select untested queen	1.50
Tested queen	2.50
Select tested queen	3.50
Breeding queens	6.00
Select breeding queens	9.00
Extra select	1 year old, 12.00

No untested queens sent before May 15; but to secure your queens early in the season it is necessary to order now. Absolutely, all orders filled in rotation.

5000 QUEENS

of the famous 3-banded LONG-TONGUE RED-CLOVER STRAIN OF ITALIAN BEES is what I want to sell this season.

My bees GATHER HONEY if there is any to get; ARE LITTLE inclined to swarm and sting; they please such people as The A. I. Root Co., R. F. Holtermann, W. Z. Hutchinson, Morley Pettit, etc., and if they don't please you, send in your kick.

Queens of all grades now ready.

	1	6	12
Untested queens.....	\$1.00	\$5.00	\$9.00
Select untested queens.....	1.25	6.00	11.00
Tested queens.....	1.50	8.00	15.00
Select tested queens.....	2.00	11.00	20.00
Breeders, \$5.00 to \$7.00.			

W. O. VICTOR (Queen Specialist), Hondo, Tex.

**When You Need
Queens and want
Your Order Filled
By Return Mail.**



Three-band Italians bred for business. Tested, \$1.00; untested, 75c; \$8.00 per doz. Send for price list.

J. W. K. SHAW & CO.,
Loreauville, Iberia Pa., La.

CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Situations Wanted

WANTED.—Situation by an expert apiarist.
X. Y. Z., care of GLEANINGS, Medina, Ohio.

WANTED.—Position by a young man of good character and habits, to work with poultry, fruit, and bees. Three years' experience with head and hands. Work must be steady. Maryland, Delaware, or Ohio preferred. N. G. NEWLON, Salem, W. Va.

Help Wanted

WANTED.—Young man, single, all around work on farm and bee-yard. If not experienced in heavy bee work do not apply. State wages, how soon can come, what can do, etc. Job good to Oct. 1st, possibly longer.
W. P. SMITH, Penn. Miss.

Post Cards

Temperance Post-cards.—20 gems containing inspiring temperance quotations, illustrated, for 15c.; 40 for 25c.; 100 for 60c. Premium coupon and seed catalog free with every order.
A. T. COOK, Hyde Park, N. Y.

Rugs

Be sure to send for our circular before you have your old carpet made into rugs. A postal will bring it.
SANITARY RUG CO., Delaware, O.

Poultry Offers

FOR SALE.—White Wyandottes, best breeding, 15 eggs, 75 cts.; 30, \$1.25.
J. F. MICHAEL, Winchester, Ind.

Fine R. C. R. I. Reds, W. Wyandottes, and Barred R.; 15, \$1.50; Muscovy duck eggs, 12, 90c.
C. FAJEN, Alma, Mo.

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.
STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

FOR SALE.—Eggs, White Wyandotte, \$1.00 per 15; \$4.50 per 100. White Holland turkeys, \$2.00 per 9.
FRANK C. PELLETT, Route 4, Atlantic, Iowa.

FOR SALE.—Prize-winners, Rose-comb White Wyandottes; Single-comb White Leghorns, and S. C. B. P. R., \$1 per 15 eggs; \$5 per 100.
HARRY M. SULZBERGER, Ransom, Ill.

FOR SALE.—W. P. Rocks, Fishel and Empire strain. I have twenty select females headed by two extra-fine roosters. Eggs, \$2.00 per twenty.
W. M. PARRISH, Route 8, Lawrence, Kansas.

EGGS FOR HATCHING.—White Holland turkeys, Rose Comb Brown and White Leghorns; S. C. Black Langshans and Minorcas; Barred and White Rocks; White Wyandottes; Pekin and Rouen ducks. Catalog for stamp.
JEWETT ALLEN, Walnut Grove, Minn.

Fifteen S. C. B. Leghorn eggs given free with every order for six or more queens if mentioned with the order. See advertisement, page 481. Regular price for eggs, \$1.00 per 15; \$1.25 per 30; positively by return express.

J. E. HAND, Birmingham, Ohio.

Plants

WHITE RASPBERRIES grow wild in Oregon. Particulars for 2c. stamp.
J. W. H., Box 887, St. John, Oregon.

For Sale

FOR SALE.—9 Danz. hives, 22 Danz. supers, cheap.
F. W. LESSER, Sta. A., Syracuse, N. Y.

FOR SALE.—300 lbs. Dadant's thin brood foundation, size 8x17 inches.
C. J. BALDRIDGE, Kendaia, N. Y.

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Write for catalog and particulars.
W. P. SMITH, Penn. Miss.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1907 send your name and address to
FRANK S. STEPHENS,
(Root's Goods.) Paden City, W. Va.

FOR SALE.—About 1300 or 1400 cases, two five-gallon cans each, practically free from nail-holes, and were new tins when originally shipped to us. Make us an offer.
CLEVELAND HEALTH FOOD CO., Cleveland, O.

FOR SALE.—Best Wisconsin sections, 1000, \$4.00; 2000, \$7.75; 3000, \$11.00; 5000, \$17.50; No. 2, 50 cts. less; plain, 25 cts. less, 24-lb. 2-in. glass shipping-case, 14 cts. Catalog free.
H. S. DUBY, St. Anne, Ill.

FOR SALE.—Alexander wire bee-veils, no pins or sewing required; made from the very best wire cloth at 60 cents each, postpaid.
FRANK ALEXANDER,
Delanson, N. Y.

Don't bother with cans. Kegs are cheaper and easier to fill and handle. 160-lb. pine kegs, with 2-in. hole and plug, 50 cts. each, f. o. b. factory. Orders given prompt attention. Send list of supplies needed. I can save you money.
N. L. STEVENS, Moravia, N. Y.

Real Estate for Bee-keepers

FOR SALE.—Good bee and fruit ranch. Price \$4500; 200 acres of land; 20 acres tillable; 500 apple-trees from 2 years old to 10; 200 English walnuts; 50 peach-trees; good small house, and barn. The rest of the ranch is mountain covered with live oak—say 4000 cords of wood. One of the best sage-brush locations in central California; 200 stands of good bees in patent hives on full foundation; extractor-tanks, honey-house; only 12 miles from San Luis Obispo, California. This place is well watered with plenty of good spring water, and a snap if taken soon.
OTIS RAMAGE,
San Luis Obispo, California.

Wants and Exchanges

WANTED.—Several pairs of gray squirrels. State price.
JOHN RICK, 434 Oley St., Reading, Pa.

WANTED.—Refuse from wax-extractors and old comb or cash.
ARCHIE COGGSHALL, Groton, N. Y.

WANTED.—To buy or rent bees in So. California.
C. A. WURTH, College View, Neb.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.
OREL L. HERSHISER,
301 Huntington Ave., Buffalo, N. Y.

Bees and Queens

Untested queens (shipped from South), 60 cents each. Also bee-supplies. List free.
A. RATTRAY, Almont, Mich.

FOR SALE.—150 colonies of bees in uniform hives, free from disease. Also 150 empty hives.
S. E. TENNANT, Schoharie, N. Y.

FOR SALE.—100 Heddon supers, wired combs, for 50 cents each. W. L. COGGSHALL, Groton, N. Y.

FOR SALE.—45 colonies of bees in 8-frame Hilton chaff hives; straight combs, built on wire.

ALBERT FIEN, Falmouth, Mich.

FOR SALE.—100 colonies of Italian bees at \$6.00 per colony; ten or more, \$5.00 each. G. H. ADAMS, Mill St., Bellevue, Schenectady, N. Y.

FOR SALE.—Selected young Italian queens, bred for superiority in honey production instead of color. Single queen, 75 cts.; 6 for \$4.00; one dozen for \$7.50. Also Golden all over, Cyprians, Carniolans, and Banats.

JULIUS HOPPEL,
414 Up. 4th St., Evansville, Ind.

Save money by getting full colonies and nuclei; also one pound of bees and queens of same strains, bred in Medina apiary, from Mechanic Falls branch.

J. B. MASON, Mechanic Falls, Me.

FOR SALE.—After May 15, Italian, Carniolan, Caucasian queens, untested, 75 cts.; 12, \$8.50; virgins, 40 cts.; 12, \$4.50. Nuclei, after June 10, 1, 2, 3 frames, including queens, \$2, \$3, \$4. Orders booked now.

EDWARD REDDOUT, Baldwinsville, N. Y.

FOR SALE.—75 colonies of bees, Italian stocks. I sold \$1000 worth of honey last year from 180 colonies. All worker combs; bees never diseased.

MRS. S. WILBUR FREY, Sand Lake, Mich.

FOR SALE.—Few strong colonies of Italians in ten-frame Dovetail or Danz. hives; combs built on wire; no disease; every thing first class; shipped by express on receipt of \$6.00 two or more, \$5.50 each. Danz. supers filled with sections and starters, 85 cents each.

J. W. LEIB, 563 S. Ohio Ave., Columbus, Ohio.

Honey and Wax for Sale

FOR SALE.—5000 lbs. of clover and amber honey in 160-lb. kegs.

C. J. BALDRIDGE, Homestead Farm,
Kendaia, N. Y.

FOR SALE.—Fancy orange-blossom in 60-lb. cans, 8½ cts.; water-white sage in 60-lb. cans, 8 cts.; light-amber in 60-lb. cans, 7½ cts.; dark-amber in 60-lb. cans, 7½ cts.

E. R. PAUL & CO., Milwaukee, Wis.

FOR SALE.—Fancy white comb honey; also extracted basswood, white-clover, alfalfa, and amber honey in barrels or 60-lb. cans.

ROBERT A. HOLEKAMP & SON,
4263 Virginia Ave., St. Louis, Mo.

FOR SALE.—White comb honey, No. 1, average 23 lbs. to the case of 24 sections, \$3.25 per case; amber, \$2.50. Fancy white extracted in 60-lb. cans, 10½ cts.; amber, 9½.

HAROLD HORNOR, Jenkintown, Pa.

FOR SALE.—Choice extracted honey for table use—thick, well ripened, delicious flavor; color, light amber; remained on hives for months after being sealed over. Price 8 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.

J. P. MOORE, queen-breeder, Morgan, Ky.

Honey and Wax Wanted

WANTED.—White ripe extracted honey; will pay cash.

GEORGE RAUCH,
No. 5343 Hudson Boulevard, North Bergen, N. J.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water Street, Chicago, Ill.

Bee-keepers' Directory

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

ITALIAN QUEENS from imported mothers; red-clover strain, \$1. A. W. YATES, 3 Chapman St., Hartford, Ct.

ITALIANS, CARNIOLANS. No disease. Two-comb nucleus with queen, \$3.00. A. L. AMOS, Comstock, Nebraska.

Golden-all-over and red-clover Italian queens; circular ready. W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

I club a high-grade Italian queen with GLEANINGS, new or renewal. W. T. CRAWFORD, Hinston, La.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies. ALISO APIARY, El Toro, Cal.

BEE-SUPPLIES.—Send list of wants for low prices and best goods to E. T. ABBOTT, St. Joseph, Mo.

Well-bred bees and queens. Hives and supplies.

J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to T. F. BINGHAM, Farwell, Mich.

GOLDEN yellow Italian queens—my specialty. Price list free. E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog. D. COOLEY, Kendall, Mich.

SWARTHMORE Golden-all-over, Caucasian, Banat, Carniolan, Cyprian queens. Queen-rearing outfits and books; new 40-page catalog free. E. L. PRATT, Swarthmore, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free. GEO. S. GRAFFAM & BRO., Bangor, Maine.

Have you seen Hand's queen circular? It's an eye-opener. Your address on a postal card will bring it. It will pay you to send for it.

J. E. HAND,
Birmingham, Erie Co., Ohio.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

Mott's long-tongued Italians are climatized to cold winters yet gentle and hardy. Circular free.

E. E. MOTT, Glenwood, Mich.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES AND QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. For prices, see display advertising columns in this issue. Send for price list. Twenty-five years' experience.

F. J. WARDELL, Uhrichsville, O.

TENNESEE QUEENS.—Best that experience can produce. Untested three-band and goldens, \$1.00 each; 6 for \$5.00; 12 for \$9.00. Caucasians and Carniolans, \$1.25 each. Write for circular; order goldens from Ben G. Davis; others from John M. Davis, Spring Hill, Tenn.

Breeding queens of pure Caucasian and Carniolan races—price \$3.00. Order from A. E. Titoff, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

FOUNDATION SPLINTS.

Some have been writing Dr. Miller for foundation-splints. He does not have them for sale. We are prepared to furnish them for 10 cts. per 100, 50 cts. per 1000 postpaid, or 40 cts. per 1000 with other goods.

MAPLE SYRUP.

We have a good supply of very choice maple syrup which we can supply at \$1.00 per gal.; 6 gal. at 95c; 20 gal. or over, 90c. Will be pleased to hear from those interested. Maple sugar is not so plentiful, and we can not offer this at less than 15c per lb. for best; 13c for fair to choice.

CARTONS FOR OUNCE CAKES OF BEESWAX.

We can supply cartons for one-ounce cakes of beeswax, printed with name and address blank, at 35 cts. per 100; 250 for 80 cts.; 500 for \$1.50; 1000 for \$2.75; by mail, 15 cts. per 100 extra. These prices will also include the large carton to contain 32 of the small ones. The complete package weighs 2 lbs., and, when filled, sells to the dealer at \$1.00. They retail the cakes at 5 cts. each. Reformed molds for molding ounce cakes costs 35 cts. per dozen; by mail, 40 cts.; for two-ounce cakes, 40 cts.; by mail, 50. We do not have cartons to fit the two-ounce cakes. To print your name and address on the cartons will add, 250 or less, 50 cts.; 500, 75 cts.; 1000, \$1.00.

SECOND-HAND FOUNDATION-MILLS.

We have to offer the following second-hand foundation-mills in good condition. We shall be pleased to hear from any one interested. To such we can send a small sample of comb foundation representing the kind of work produced by the particular machine you inquire about.

No. 079.—6x2½-inch hex. cell thin-super mill, in very good condition. Price \$12.00.

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No. 086.—6x2½-inch hex. cell extra-thin-super mill, in good condition. Price \$12.00.

No. 075.—2x9 hex., very old style, on frame with wood base; in fair condition. Price \$10.00.

No. 085.—2½x6 hex. thin-super mill, in good condition. Price \$12.00.

No. 086.—2½x6 hex. extra-thin-super mill in extra-good condition. Price \$15.00.

No. 096.—2½x10 hex. light-brood mill; almost new; in fine condition. Price \$20.00.

No. 097.—2½x10 hex. light-brood mill; in fine condition. Price \$18.00.

No. 077.—10x2-inch medium-brood round cell, old-style frame, in good condition. Price \$14.00.

No. 092.—6x2½-inch hex. cell extra-thin-super mill, in fine condition. Price \$15.00.

No. 2275.—6x2½-inch hex. cell extra-thin-super mill, in good condition. Price \$13.00.

Special Notices by A. I. Root

GOOD BOOKS FOR BEE-KEEPERS AND OTHERS WHO ENJOY OUTDOOR WORK AT THIS SEASON OF THE YEAR.

Don't forget to look over our list of books elsewhere in this issue. It should have been put in a little earlier, but was crowded out by other matter. Many of these books will give you short cuts in your outdoor work that may save you hundreds of dollars. They are all carefully selected, and some of them were written by your old friend A. I. Root, some of which, at least, he thinks, will prove valuable. I want to call attention also to our free leaflets and pamphlets. These were printed to give away free of charge in order to save our time in answering many questions that are asked over again. Some time later on, if you write that these leaflets have been helpful to you in the past, that will be all the pay we want.

THE "FIRELESS" BROODER UP TO DATE.

The one we have works beautifully in April and May. While we gave the chicks the benefit (?) of the warm pipes in the greenhouse they kept dying as mentioned in our last issue; but after we put them outdoors where they had no artificial heat at all they brightened up at once and not a chicken has died since; and I feel pretty well satisfied that no artificial heat is needed (in fact, I

think the chicks are much better off without it) say after April 1 in our locality. *Perhaps* there is no artificial heat needed, even in the winter time; but I am not so well satisfied from my own experience as to that; but I do now feel very sure that, in my travels, I have seen many chickens feeble and dying under the influence of artificial heat when they would have been *ever so much* better off out in the open air and sunshine.

A NICE LARGE POULTRY-BOOK ABSOLUTELY FREE OF CHARGE TO EVERYBODY WHO SUBSCRIBES FOR GLEANINGS.

This book is the same thing that is advertised on page 661 at \$1.00. There are 350 pages, profusely illustrated, and it is exactly the same thing as the dollar book except the paper covers. Everybody who sends a dollar for GLEANINGS, or any one who pays for it a year or more in advance, may have this book free of charge providing he sends 6 cents to pay the postage. We furnish the book just as we say, but we positively can not keep postage-stamps to give away. Although this book may not be clear up to date in some things, it contains more practical matter, in my opinion, than a whole dozen of some of the little paper pamphlets now offered for a dollar or more.

THE "DANDELION COW" AT THIS TIME, MAY 15.

This same cow is now giving a foaming pailful of excellent milk while her food is almost entirely dandelions and nothing else. While I write she is gathering in the yellow blossom-heads in great quantities, that stand a foot high or more, and cover the ground in our orchard so thickly that in places they look as if the ground were literally covered with yellow snow. Just at this time I notice the papers are (as usual) talking about waging war on the dandelion. Why in the world don't they get a cow, and then, instead of fighting the dandelions, underdrain the soil and make it very rich, and let the dandelions grow? There is no other plant that will furnish the amount of feed at this season of the year as does the dandelion. We (Roots and Rootlets) have not found any better milk than that furnished by the cow while she is, week after week, on an almost pure "dandelion diet."

WRIGHT BROTHERS MAKE A SUCCESSFUL TRIP IN AIR-SHIP.

I have been telling you several times of late that we should soon have some news. As I write to-day, May 9, the daily papers are full of accounts of their flights. From a column of matter in the Cleveland *Leader* I gather that they are making the flights from Manteo, N. C., over the sand dunes of what is called Kill Devil Hill. They have made as many as ten ascensions, covering in all over 30 miles. Every thing worked quite as well as when I witnessed their work two years ago last October. First one of the brothers made a flight and then the other. They seemed to show equal skill in handling the machine. "At no time did it seem necessary to direct the machine to the ground. Apparently it could easily have continued its flight many miles." Their longest flight, which occupied two minutes, covered a mile and a half. The papers state that the present machine weighs 350 lbs. The engine, 30 horse-power, weighs just about as much as the rest of the machine. I quote from the *Leader* as follows:

The Wrights refuse requests for information regarding their machine, and little can be learned about it except by observation of its performances. Located as they are at Kill Devil Hill, and surrounded by sand hills with practically no inhabitants, their experiments were witnessed by only a few people. They are one mile from the Kill Devil Hill life-saving station, on the beach of the Atlantic. Its six surmen assisted them in building and in handling the machine. These and several others witnessed the experiments to-day.

A herd of long-haired cattle, observing operations from afar, were frightened into Roanoke Sound when once the machine flew in their direction.

Probably by the time this reaches you there will be plenty of news of a more extended flight. May God grant that no accident may happen to these two young Ohio inventors who seem to have distanced the whole wide world in making a machine that will actually fly like a bird, without the assistance of any balloon.

I have had no recent information from the Wright Brothers themselves; but the above would indicate that there is going to be "something doing" pretty soon in the way of a real flying-machine—that is, a machine that does not need a balloon to hold it up.

DAY-OLD CHICKS BY EXPRESS.

Dear Friends:—I will say I make a specialty of shipping day-old chicks by express. I am a subscriber to GLEANINGS from the start, and will be as long as I live. H. M. MOYER.
Bechtelsville, Pa.

In addition to the above we would add the names of Mrs. Stephen Walker, Hawthorn Farm, Williamsville, N. Y.; and F. E. Schriver, Greenlawn Farm, Grafton, O., sends out day-old chicks and ducklings; also C. A. Thompson, Bellevue, O., and F. G. Mason, Fabius, N. Y., chicks only.

Convention Notices.

TENNESSEE STATE BEE-KEEPERS' ASSOCIATION.

At the close of the course in apiculture given at the University of Tennessee, Knoxville, this spring, a State bee-keepers' association was formed. The following officers were elected: President, Prof. G. M. Bentley, Knoxville; Vice-president, Mr. Henry Cook, Springfield; Secretary and Treasurer, Mr. John Davis, Spring Hill. Much enthusiasm was demonstrated in the organization of this Association, and the list of membership has increased rapidly, and additional names are being received daily. The annual meeting is to be held conjointly with the State Horticulturists and Nurserymen in Nashville during the last week in January, 1909.

G. M. BENTLEY,
Ass't State Entomologist and Plant Pathologist.

[The bee-keepers of Tennessee would do well to get in touch with Mr. Bentley.—Ed.]

The annual meeting of the Missouri State Bee-keepers' Association will take place May 26 and 27, at the Courthouse of Carrollton, Mo. The meeting will convene at 9 A.M.

A very interesting program has been prepared which is as follows: First day, morning session at the courthouse; afternoon meeting at the bee-yard of A. Finlayson, of Carrollton. There will be a practical demonstration of transferring bees from box to movable-frame hives, and a practical demonstration of queen-breeding and requeening colonies of bees.

Second day at courthouse. Lecture on foul brood, explaining the same by exhibiting a hive containing diseased combs, also microscope and slides showing the microbes which cause the disease.

Our State bee-inspector, Mr. M. E. Darby, will be on hand to explain the spread of the disease over our State. There will be a number of speakers, all expert bee-keepers, who will lecture on different topics interesting to bee-keepers.

We also expect to exhibit in the courthouse yard a hive of bees in a cage made of wire screen to enable the public at large to see the working of the bees without being in danger of stings. An expert bee-keeper will enter the cage, open up the hive, and show how the bees are doing their work.

Hotel accommodations can be had at \$1.00. Arrangements have been made so that all can be accommodated. All bee-keepers and those interested in bees are invited.

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4263 Virginia Avenue, St. Louis, Mo.

T. B. TERRY'S HEALTH HINTS

published only in The Practical Farmer each week, have been the means of saving lives and thousands have been helped to enjoy life more than they have ever done before. Send **Twenty-five Cents** to The Practical Farmer, Philadelphia, Pa., and read Mr. Terry's Health Hints **thirteen weeks on trial**. You will be surprised to find how simple a matter it is to get well and strong and keep so. The latest and best that can be given you, together with strong editorials on Agriculture, Live Stock, Gardening, Home Life, etc. A high class weekly, well worth the subscription price of \$1.00 per year. Address

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in this section, as we carry the largest and most complete line of Hives, Supers, Sections, Foundation, Bee-smokers, and other Apiarian Supplies, of any one in the New England States. We have a good stock of goods on hand now, and solicit your orders. Send postal for price list of

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A FULL LINE of Bee-keepers' Supplies. My patent Section-machine at half-price. A new queen-nursery, and queen-rearing outfit. Queens from imported Italians, Caucasians, Carniolans; and Adel queens. Send for catalog and price list. Chas. Mondeng, 180 Newton Ave. N., Minneapolis, Minn.

BIG STOCK OF A. I. ROOT CO'S AND MARSHFIELD CO'S
BEE-SUPPLIES AT MANUFACTURERS' PRICES

For cash sent in April, deduct 8 per cent; for cash sent in May, deduct 7 per cent; take their 1908 price lists if you have one. If not, send for one or both. S. D. BUELL, Union City, Mich.

Books for Bee-keepers and Others.

Any of these books on which postage is not given will be forwarded by mail postpaid, on receipt of price. As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice that you can judge of the size of the books very well by the amount required for postage on each.

BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

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8 Bible, good print, neatly bound	20
10 Bunyan's Pilgrim's Progress**	40
6 Christian's Secret of a Happy Life,** cloth	25
1 Gospel Hymns, consolidated, Nos. 1, 2, 3, and 4,	
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3 New Testament in pretty flexible covers	05

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5 New Testament, new version, paper covers.....	10
10 New Testament, both Spanish and English	25
6 Christian's Secret of a Happy Life. Cloth	25
For several years we have been unable to get a nice substantial copy of this book at a reasonable price. We are glad to tell our friends now, however, that we have a very pretty edition, bound in cloth, at the very reasonable price of 25 cents. If wanted by mail, add 6 cents for postage. This book has had a very large sale for more than 20 years, and when I tell you that quite a number of people have been converted to the Lord Jesus Christ simply by reading it you will no longer wonder why it sells. At one time it was carried and sold by the newsboys on our railways. It not only contains a wonderful "secret" for unbelievers, but for many who have been church-members all their lives, but not the "happy" church-members that God intended we should be.	

5 Amerikanische Bienenzucht	95
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BOOKS ESPECIALLY FOR BEE-KEEPERS.

25 A B C of Bee Culture, cloth.....	1 25
Bienenzucht und Honiggewinnung..... 25	
Or "Bee Culture and the Securing of Honey," a German bee-book by J. F. Eggers, of Grand Island, Neb. Postage free.	
15 Cook's Manual, cloth.....	1 00
5 Doolittle on Queen-rearing	95
Dzierzon Theory.....	10
15 Langstroth Revised, by Chas. Dadant & Son.....	1 10
10 Quinby's New Bee-keeping.....	90
5 British Bee-keeper's Guide-book, by Thomas William Cowan, England ?	95
5 The Honey-bee, by Thos. William Cowan.....	95
3 Merrybanks and His Neighbor, by A. I. Root.....	12
10 The Honey-makers, by Miss Margaret W. Morley.....	1 40

This is a story of the life of the bee, told in very interesting style—how it lives, gathers honey, and all about it. While clothing the general subject with an air of poetry, it seems to be entirely within the limits of known facts while attempting to deal with them. We believe it will give all thoughtful bee-keepers a greater liking for their business to read it. Probably it has more to do with the curious traditions connected with bees than any other book of the kind.

10 The Life of the Bee	1 30
Thos. Wm. Cowan, editor of the British Bee Journal, in his review of Maeterlinck's work, says: "Not since the appearance, in 1876, of Bucher's 'Mind in Animals' have we had a book about bees more charming, or one that we have read with greater pleasure, than Maeterlinck's 'Life of the Bee.'"	
Bee-keeping in Jamaica. By F. A. Hooper, Kingston, Jamaica. Paper covers.....	
10 Forty Years Among the Bees. By Dr. C. C. Miller, Marengo, Ill.	90
15 Modern Bee-farm. By S. Simmins. New edition; cloth bound.....	1 85

MISCELLANEOUS HAND-BOOKS.

Postage.] [Price without postage.

5 A B C of Carp Culture, by Geo. Finley	25
5 A B C of Strawberry Culture,** by T. B. Terry..	
New edition, revised and enlarged; paper, 45c; cloth, 68c; by mail, 75c.	

5 A B C of Potato Culture, Terry** New edition, revised & enlarged; paper, 45c; cloth, 68c, mail 75c.	
This is T. B. Terry's first and most masterly work.	

8 Barn Plans and Out-buildings*	90
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2 Celery for Profit, by T. Greiner**	25
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The first really full and complete book on celery culture, at a moderate price, that we have had. It is full of pictures, and the whole thing is made so plain that a schoolboy ought to be able to grow paying crops at once without any assistance except from the book.

10 Draining for Profit and Health, Warring.....	80
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8 Domestic Economy, by I. H. Mayer, M. D.** ...	30
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This book ought to save at least the money it costs, each year, in every household. It was written by a doctor, and one who has made the matter of domestic economy a life study. The regular price of the book is \$1.00, but by taking a large lot of them we are enabled to make the price only 80 cents.

10 Fruit Harvesting, Storing, Marketing, etc.....	75
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It has been well said that it is an easier matter to grow stuff than to sell it at a proper price after it is grown; and many men fail, not because they are inexperienced in getting a crop, but because they do not know how to sell their crops to the best advantage. This is the first book of the kind we have had as an aid in selling. It not only tells all about picking, sorting, and packing, but gives all the best methods for storing for one or two days or a longer time. It also tells about evaporating and canning when there is a glut in the market. It discusses fruit packages and commission dealers, and even takes in cold storage. It is a new book of 250 pages, full of illustrations. Publisher's price, \$1.00.

Farming with Green Manures, postpaid**.....	90
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This book was written several years ago; but since competent labor has got to be so expensive, and hard to get, many farmers are beginning to find they can turn under various green crops cheaper than to buy stable manure, and haul and spread it—cheaper, in fact, than they can buy fertilizers. This book mentions almost all plants used for plowing under, and gives the value compared with stable manure. Some of the claims seem extravagant, but we are at present getting good crops, and keeping up the fertility, by a similar treatment, on our ten-acre farm.

7 Farm, Gardening, and Seed-growing**	90
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10 Fuller's Grape Culturist**	1 15
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5 Garden and Farm Topics, Henderson**.....	60
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12 Gardening for Pleasure, Henderson*	1 10
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While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part, and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 246 pages and 134 illustrations. (Retail price \$2.00.)

12 Gardening for Profit**	1 10
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This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts. (Retail price \$2.00.)

8 Gardening for Young and Old, Harris**.....	90
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This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

3 Grasses and Clovers, with Notes on Forage	
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Plants	20
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This is by Henry A. Dreer, author of the book "Vegetables Under Glass" that has had such a large sale of late. This little book tells how six tons of grass has been grown to the acre, and gives much other valuable matter.

Postage.] [Price without postage.

10 | Greenhouse Construction, by Prof. Taft**..... 1 15
This book is of recent publication, and is as full and complete in regard to the building of all glass structures as is the next book in regard to their management. Any one who builds even a small structure for plant-growing under glass will save the value of the book by reading it carefully.

12 | Greenhouse Management, by Prof. Taft**..... 1 15
This book is a companion to Greenhouse Construction. It is clear up to the times, contains 400 pages and a great lot of beautiful half-tone engravings. A large part of it is devoted to growing vegetables under glass, especially Grand Rapids lettuce, as well as fruits and flowers. The publisher's price is \$1.50; but as we bought quite a lot of them we can make a special price as above.

5 | Gregory on Cabbages, paper* 20

5 | Gregory on Squashes, paper* 20

5 | Gregory on Onions, paper* 20

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

| Handbook for Lumbermen 05

5 | Home, Pork-making; 125 pages, illustrated 40

I think it will pay well for everybody who keeps a pig to have this book. It tells all about the care of the pig, with lots of pictures describing cheap pens, appliances, all about butchering, the latest and most approved short cuts; all about making the pickle, barreling the meat, fixing a smoke-house (from the cheapest barrel up to the most approved arrangement); all about pig-troughs; how to keep them clean with little labor; recipes for cooking pork in every imaginable way, etc. Publisher's price is 50 cents, ours as above.

15 | How to Make the Garden Pay**..... 1 35
By T. Greiner. Those who are interested in hot-beds, cold-frames, cold green-houses, hothouses, or glass structures of any kind for the growth of plants, can not afford to be without the book. Publisher's price \$2.00.

| How we Made the Old Farm Pay—A Fruit-book, Green 10

10 | Irrigation for the Farm, Garden, and Orchard* 85
By Stewart. This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills to take the place of rain, during our great drouths, is the great problem before us at the present day. The book has 274 pages and 142 cuts.

3 | Maple Sugar and the Sugar-bush**..... 25

5 | Manure; How to Make and How to Use

Them; in paper covers..... 30

6 | The same in cloth covers..... 65

Nut Culturist, postpaid..... 1 25

3 | Onions for Profit**..... 40

Fully up to the times, and includes both the old onion culture and the new method. The book is fully illustrated, and written with all the enthusiasm and even if one is not particularly interested in the business, almost any person who picks up Greiner's books will like to read them through.

10 | Our Farming, by T. B. Terry**..... 75

Same, paper cover, postpaid..... 50

In which he tells "how we have made a run-down farm bring both profit and pleasure."

If ordered by express or freight with other goods, 10c less.

8 | Practical Floriculture, Henderson.*..... 1 10

10 | Profits in Poultry* 1 00

10 | Small-Fruit Culturist, Fuller 75

2 | Sorghum, Stock Beets, Strawberries, and Cement Floors. By Waldo F. Brown 08

This little book ought to be worth its cost for what is said on each of the four different subjects; and the chapter on cement floors may be worth many dollars to anybody who has to use cement for floors, walks, or any thing else. In fact, if you follow the exceedingly plain directions you may save several dollars on one single job; and not only that, get a better cement floor than the average mason will make.

2 | Sweet Potatoes; Forty Years' Experience with.

By Waldo F. Brown **..... 08

This little book, by a veteran teacher at our farm

Postage.] [Price without postage.

ers' institutes, ought to be worth many times the price to everybody who grows even a few sweet potatoes in the garden. It also gives full particulars in regard to handling and keeping this potato, which is difficult to keep unless you know just how.

10 | Talks on Manures* 1 35

By Joseph Harris. Written conversational style, which makes it very interesting reading. It covers the subject very completely; contains numerous analyses of manures and comparative tables. The use of technical language is avoided, which makes the book of greatest value to the practical farmer. A book of 366 pages, nicely bound in cloth.

5 | The New Rhubarb Culture**..... 40

Whenever apples are worth a dollar a bushel or more, winter-grown rhubarb should pay big. It does not require an expensive house nor costly appliances. Any sort of cellar where it will not freeze is all right for it; and the small amount of heat necessary to force the rhubarb costs very little. The book is nicely bound in cloth, full of illustrations, mostly photos from real work, 130 pages. Every market-gardener should have this book, for the lessons taught indirectly, in regard to forcing other crops besides rhubarb. Publisher's price 50c.

5 | Tile Drainage, by W. I. Chamberlain 35

Fully illustrated, containing every thing of importance clear up to the present date.

The single chapter on digging ditches, with the illustrations given by Prof. Chamberlain, should alone make the book worth what it costs, to every one who has occasion to lay ten rods or more of tile. There is as much science in digging as in doing almost any thing else; and by following the plan directed in the book, one man will often do as much as two men without this knowledge.

5 | Tomato Culture 35

In three parts. Part first.—By J. W. Day, of Crystal Springs, Miss., treats of tomato culture in the South, with some remarks by A. I. Root, adapting it to the North. Part second.—By D. Cummins, of Conneaut, O., treats of tomato culture especially for canning-factories. Part third.—By A. I. Root, treats of plant-growing for market, and high-pressure gardening in general.

3 | Vegetables under Glass, by H. A. Dreer**..... 20

3 | Vegetables in the Open Air*..... 20

This is a sort of companion book to the one above. Both books are most fully illustrated, and are exceedingly valuable, especially at the very low price at which they are sold. The author, H. A. Dreer, has a greenhouse of his own that covers one solid acre, and he is pretty well conversant with all the arrangements and plans for protecting stuff from the weather, and afterward handling to the best advantage when the weather will permit out of doors.

3 | Winter Care of Horses and Cattle..... 25

This is friend Terry's second book in regard to farm matters; but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in a book. It has 44 pages and 4 cuts.

3 | Wood's Common Objects for the Microscope**..... 47

8 | What to Do, and How to be Happy while Doing It..... 65

The above book, by A. I. Root, is a compilation of papers published in *Gleanings in Bee Culture*, in 1886, '7, and '8. It is intended to solve the problem of finding occupation for those scattered over our land out of employment. The suggestions are principally about finding employment about your own homes. The book is mainly upon market-gardening, fruit-culture, poultry-raising, etc. Illustrated, 188 pages, cloth.

8 | Same, paper covers..... 40

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EVERY pen guaranteed full 14K Solid Gold. Cut on right hand, our new Non-breakable Transparent, a pen in which you can **always** see the quantity of ink in the holder. We guarantee this holder and cap against breakage from any cause whatsoever, accident or otherwise. Cut on left, our Standard Opaque (black) Holder; either of these two styles plain or engraved as preferred.

To show our confidence in the Laughlin Fountain Pen, you may try it a week, if you do not find it as represented, a better value than you can secure for **three times this special price** in any other make, if not entirely satisfactory in every respect, return it and we will send you \$1.10 for it. The extra 10 cents is for your trouble in writing us. (Two customers in 3000 have asked for return of money.)

Cut in center is our famous and popular Red Gem—the Ink Pencil, a complete leak-proof triumph—may be carried in any position in any pocket or shopping-bag; writes at any angle at first touch. Platinum (spring) feed, Iridium point, polished vulcanized rubber case, terracotta finish. Retails everywhere for \$2.50.

AGENTS WANTED.—Write for our money-making proposition and terms. Write now, "lest you forget." Address

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